

**BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION**

COMMENTS AND RECOMMENDATIONS OF  
MINNESOTA DEPARTMENT OF COMMERCE  
ENERGY ENVIRONMENTAL REVIEW AND ANALYSIS STAFF

DOCKET NO. PL-6668/PPL-13-474

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**In the Matter of the Application of North Dakota Pipeline Company LLC for a Pipeline Routing Permit for the Sandpiper Pipeline Project in Minnesota**

**Issue(s) Addressed:** These comments and recommendations discuss the route alternative proposals received during the public comment period ending May 30, 2014, and include recommendations as to which alternatives the Department of Commerce Energy Environmental Review and Analysis (EERA) staff believes are appropriate for further consideration.

**Documents Attached:**

1. Project Overview Map
2. Minnesota Pipeline Existing Route Map
3. Pipeline Routing – Full Permitting Process
4. Sandpiper Alternative Routes Summary Report
5. System Alternatives Map

Additional documents and information can be found on eDockets:

<https://www.edockets.state.mn.us/EFiling/search.jsp> (13-474) and on the Department of Commerce’s energy facilities website for the Sandpiper Pipeline Project at: <http://mn.gov/commerce/energyfacilities/Docket.html?Id=33599>.

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**Introduction and Background**

On November 8, 2013, North Dakota Pipeline Company LLC (NDPC or the Company) filed applications for a Certificate of Need (13-473) and Routing Permit (13-474) with the

Commission for the Minnesota portion of the Sandpiper Pipeline Project – a proposed 612-mile pipeline to transport crude oil from Tioga, North Dakota, to existing terminals in Clearbrook, Minnesota and Superior Wisconsin.<sup>1</sup>

NDPC's application for a pipeline route permit was filed with the Commission in accordance with the requirements (Minnesota Rules (7852.0800 through 7852.1800 and 7852.2000) to construct and operate the Minnesota portion of the Sandpiper Pipeline Project, comprised of approximately 75 miles of 24-inch pipeline and approximately 224 miles of 30-inch pipeline, along with two (2) 150,000-barrel crude oil storage tanks, 4 transfer pump stations, including all valves and appurtenances, and one (1) new pump station in proximity to Enbridge's existing terminal facilities in Clearbrook (Project). The Sandpiper Pipeline Project, as proposed by NDPC will cross the Minnesota counties of Polk, Red Lake, Clearwater, Hubbard, Cass, Crow Wing, Aitkin and Carlton.<sup>2</sup>

On November 14, 2013, the Commission issued a notice soliciting comments on the completeness of the route permit application for the project.<sup>3</sup>

On January 15, 2014, the Commission met to consider acceptance of the route permit application. On February 11, 2014, an Order of the Commission accepted the application as complete. The Order also authorized the Department of Commerce Environmental Review and Analysis (EERA) staff to: 1) facilitate the development of route proposals beyond those proposed by NDPC; 2) to prepare an analysis of alternative route proposals on the basis of their harm to the environment; and 3) take other procedural steps to enable an evaluation of the Company's proposed pipeline route.<sup>4</sup>

On January 31, 2013, NDPC updated its route permit application, environmental information supplement and route maps.<sup>5</sup>

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<sup>1</sup> Enbridge Pipelines (North Dakota) LLC submitted the initial filing, but later changed its name to North Dakota Pipeline Company LLC; see NDPC Reply Comments (December 16, 2013), eDockets at [201312-94650-02](#).

<sup>2</sup> Enbridge Pipelines North Dakota LLC, now d/b/a North Dakota Pipeline Company (NDPC or the Company) Application to the Minnesota Public Utilities Commission for a Route Permit for the Sandpiper Pipeline Project and Associated Facilities in Polk, Red Lake, Clearwater, Hubbard, Cass, Crow Wing, Aitkin and Carlton, November 8, 2013, eDockets, Document ID Numbers [201311-93532-01](#), [201311-93532-02](#), [201311-93532-03](#), [201311-93532-04](#), [201311-93532-05](#), [201311-93532-06](#), [201311-93532-07](#), [201311-93532-08](#), [201311-93532-09](#), [201311-93532-10](#), [201311-93535-01](#), [201311-93535-02](#), [201311-93535-03](#), [201311-93535-04](#), [201311-93535-05](#), [201311-93535-06](#), [201311-93535-07](#), [201311-93535-08](#), [201311-93535-09](#), [201311-93535-10](#), [201311-93536-01](#), [201311-93536-02](#), [201311-93536-03](#), [201311-93536-04](#), [201311-93536-05](#), [201311-93536-06](#), [201311-93536-07](#), [201311-93536-08](#), [201311-93536-09](#), [201311-93536-10](#), [201311-93537-01](#) [hereinafter Route Permit Application].

<sup>3</sup> Notice of Comment Period on Route Permit Application Completeness, November 14, 2013, eDockets, Document ID [201311-93681-01](#).

<sup>4</sup> Order Finding Application Substantially Complete, February 11, 2014. See eDockets, Document ID [20142-96351-01](#), p.2.

<sup>5</sup> Revised route permit application, See eDockets, Document ID Numbers [20141-96101-10](#), [20141-96101-01](#), [20141-96101-02](#), [20141-96101-03](#), [20141-96101-04](#), [20141-96101-05](#), [20141-96101-06](#), [20141-96101-07](#), [20141-96101-08](#); Revised route permit aerial photography and U.S.G.S. Maps (Map # 0-0) (M 32-38) [20141-96101-09](#), (M 39-45) [20141-96104-01](#), (M 46-52) [20141-96104-02](#), (M 53-59) [20141-96104-03](#), (M 60-66) [20141-96104-04](#), (M 67-74) [20141-96104-05](#), (M 75-82) [20141-96104-06](#), (M 83-89) [20141-96104-07](#), (M 91-

Notice of Application Acceptance and Public Information (Scoping) Meetings was issued on January 31, 2014.<sup>6</sup>

***Project Purpose***

NDPC indicates in its route permit application that “The purpose of the Project is to transport growing supplies of oil produced in North Dakota to the terminals in Clearbrook, Minnesota, and Superior, Wisconsin. From these terminals, the crude oil can be shipped on various other pipelines, eventually providing refineries in Minnesota, and other states in the Midwest and the East Coast with crude oil.” At Clearbrook, the crude oil will be delivered to interconnected facilities operated by Minnesota Pipeline Company for delivery to the Flint Hills and St. Paul Park refineries in the Twin Cities. At Superior, the crude oil will be delivered into the Enbridge Mainline System and other third party pipelines for delivery to refineries in the Midwest and the East Coast.<sup>7</sup>

***Project Description (Proposed Pipeline, Associated Facilities and Land Requirements)***

NDPC proposes to construct the project, known as the Sandpiper Pipeline Project (Project or Sandpiper) to transport Bakken and Three Forks crude oil from growing production regions in the Williston Basin of eastern Montana and western North Dakota. The Project begins at NDPC’s Beaver Lodge Station, south of Tioga, North Dakota, and extends to a new terminal facility to be constructed west of Clearbrook, Minnesota, and then on to an Enbridge affiliate’s terminal and tank farm in Superior, Wisconsin. From the Superior terminal, the crude oil will be transported to other refining markets via the Enbridge Mainline System. The Sandpiper Project will also provide for redundant service for deliveries to the Minnesota Pipe Line Company’s facilities during routine maintenance activities on NDPC’s existing Line 81, or to satisfy additional demand from refineries connected to the Minnesota Pipe Line System.

Pipeline

The Project is comprised of a new 612-mile 24-inch and 30-inch outside diameter crude oil pipeline and associated facilities described as follows. Approximately 299 miles of the Project will be located in Minnesota. (Attachment 1, Project Overview Map.)

Beginning at the North Dakota border in Polk County (Milepost 299), approximately two miles south of Grand Forks, and extending east to Clearbrook (MP 375) across portions of Polk, Red Lake and Clearwater county, approximately 75 miles of 24-inch outside diameter (OD) steel pipe, with an average annual capacity of 225,000 barrels per day (bpd), to the extent feasible, will be located parallel and adjacent to NDPC’s existing Line 81, which currently transports approximately 150,000 bpd to Clearbrook.

The Sandpiper Pipeline segment between Clearbrook and the Wisconsin border, as proposed by NDPC, is approximately 224 miles across the counties of Clearwater, Hubbard, Cass, Crow Wing, Aitkin and Carlton, and will be 30-inch OD steel pipeline and have an annual average capacity of 375,000 bpd.

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98) [20141-96104-08](#), (M 99-106) [20141-96104-09](#), (M 107-114) [20141-96104-10](#), (M 115-121) [20141-96105-01](#), (M 122-123) [20141-96105-02](#).

<sup>6</sup> Notice of Application Acceptance, dated January 31, 2014. See eDockets, Document ID [20141-96003-01](#).

<sup>7</sup> NDPC Application for Routing Permit, January 31, 2014, See eDockets, Document ID [20141-96101-01](#), pp. 4-5.

Between Clearbrook and the city of Hubbard (MP 375 - 440), the NDPC preferred route generally parallels the existing multiple line pipeline rights-of-way in which Minnesota Pipe Company (MPL) has three to four existing pipelines, depending on location. The MPL maintained right-of-way is approximately 100 feet in width. (Attachment 2, Minnesota Pipeline Existing Route Map)

Between the Hubbard and the Wisconsin border, the EPND preferred route turns east, following portions of existing electrical transmission and railroad rights-of-way. This portion of the Project also requires the most new right-of-way.

The minimum depth of burial for the pipeline is between 36 to 54 inches or more, depending on pipeline location.

The X70 Carbon steel pipe used for the 24-inch portion of the pipeline will have a nominal wall thickness of 0.375 inches, while the 30-inch pipe will have a wall thickness of 0.469 inches. The pipeline will have an operating pressure of 1,352 pounds per square inch gauge (psig) at station discharge. The maximum allowable operating pressure is 1,480 psig.

#### Associated Facilities

The Project will also include the installation of associated facilities (or appurtenances). Associated facilities will include valves and flanges and a cathodic protection to prevent corrosion on the pipelines. Based on preliminary engineering design and environmental survey work, approximately 15 mainline valves are currently planned to be installed in Minnesota. Valve installation locations are typically near major rivers, other environmentally sensitive areas, population centers, and pump stations. Pipeline markers will also be installed at various locations (e.g., road crossings) in accordance with applicable federal and state regulations.

As part of the Project, NDPC also proposes to develop a new terminal facility approximately three miles west of Clearbrook. The new terminal will consist of two crude oil storage tanks holding approximately 150,000 barrels (bbls) or 6,300,000 gallons each, two 500 horse power (HP) injection pumps to move up to 150,000 barrels per day (bpd) from the existing NDPC Line 81 into Sandpiper, two 650 HP transfer pumps for delivery to NDPC, and three sets of leak detection meters (1 set for delivery from the Sandpiper to NDPC tankage, 1 set for Line 81 delivery to NDPC tankage, and 1 set for flow injection NDPC tankage into the Sandpiper pipeline). Also included are all associated terminal piping, interconnections, valves, manifold and sumps, as well as an electrical substation, a fire suppression system (e.g. building, pond and piping), a maintenance building and a cold storage building. Schematic drawings of the new terminal facilities are depicted on station plat drawings in Appendix G.3 of the Environmental Information Report (EIR).

The pump station facilities include four 5,500 HP pumps, four 5,750 HP Variable Frequency Drives (VFD), a pump shelter, four VFD buildings, and a switchgear building. Additionally, it will include two coriolis meters, a 24-inch PIG receiver and a 30-inch PIG launcher, as well as associated pump station piping and valves. See Appendix G.3 of the EIR for schematic drawings.

Launch and receiver traps along with one of the mainline valves will be installed at a site near Pine River in Cass County. See schematic in Appendix G.3 of the EIR

#### Land Requirements (Right-Of-Way Width and Temporary Work Space(s))

Appendix F in the EIR provides schematic drawings for the various right-of-way requirements.<sup>8</sup>

#### Right-of-Way Requirement – West of Clearbrook

From the North Dakota border to the Clearbrook Terminal, the Project will generally be constructed and installed adjacent to the existing NDPC right-of-way (Line 81). Typically, the right-of-way requirements in upland areas include up to 55 feet of permanent easement, of which 25 feet would be new easement and 65 feet would be temporary workspace, for a total land requirement width of 120 feet. In wetland areas, the temporary workspace requirement would be reduced to 40 feet, for a total land requirement of 95 feet.

NDPC's design configuration and anticipated construction execution methods are intended to take advantage of the proximity of the Project to the existing NDPC pipeline west of Clearbrook to minimize new right-of-way requirements.

#### Right-of-Way Requirements – East of Clearbrook

From Clearbrook to the city of Hubbard, the NDPC preferred route follows or parallels the Minnesota Pipeline Company right-of-way. Between Hubbard and the Wisconsin border, the NDPC preferred route generally follows or parallels existing electrical transmission and railroad lines. Where it is not possible to co-locate with existing rights-of-way, the pipeline will be constructed on new right-of-way (greenfield areas). The proposed construction footprint is approximately 120 feet for standard pipeline construction in upland areas, including 50 feet of new permanent easement and 70 feet of temporary workspace. In wetland areas, the temporary workspace requirement would be reduced to 40 feet, for a total land requirement of 95 feet.

Both the permanent easement and the temporary workspace areas may be returned to pre-existing uses by the landowners if they do not impact safe operation and inspection of the pipeline.

In certain limited areas, the right-of-way encounters environmental features (such as extended wetlands) that require special construction methods. Typically, this results in a maximum construction footprint of 95 feet, including 50 feet of permanent easement and 45 feet of temporary workspace. NDPC has presently identified approximately 9 miles of potential right-of-way in the following areas that contain environmental features that will necessitate special construction methods:

- MP 395 to 396
- MP 415 to 416
- MP 460 to 462

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<sup>8</sup> See eDockets, Document ID [201311-93532-10](#), (6 pages).

- MP 484 to 485
- MP 496.5 to 520
- MP 546 to 555
- MP 558 to 562

## **Regulatory Process and Procedures**

In Minnesota, no person may construct a high pressure petroleum pipeline without a pipeline routing permit issued by the Commission unless the pipeline is exempted from the Commission's routing authority (Minnesota Statute 216G.02 Subd.2.). A high pressure pipeline is a pipe with a nominal diameter of six inches or more that is designed to transport hazardous liquids or a pipe designed to be operated at a pressure of more than 275 pounds per square inch and to carry gas. The proposed project will consist of approximately 300 miles of 24-inch and 30-inch pipe; therefore, the project requires a route permit from the Commission.

The proposed Sandpiper Project also requires a Certificate of Need from the Commission, per Minnesota Statute 216B.2421. NDPC applied to the Commission for a certificate of need on November 8, 2013.<sup>9</sup>

### ***Route Permit Application Review***

Commission review of NDPC's Sandpiper Route Permit application is taking place pursuant to the requirements of Minnesota Statute 216G.02 and the pipeline route selection procedures in Minnesota Rules, 7852.0800 to 7852.1900, as illustrated in Attachment 3.<sup>10</sup>

Acceptance of the application allowed Commission and Department of Commerce EERA staff to initiate the procedural requirements of Minnesota Rules, 7852 through 7852.1900.

As with previous pipeline route permit proceedings under the full process (MinnCan and Enbridge's Alberta Clipper Projects), the Commission authorized EERA staff to receive and evaluate all route or route segment proposals submitted for consideration. Proposals are then submitted to the Commission for a final determination as to whether they should be accepted for consideration at the public hearing. Proposals accepted by the Commission will be considered by the Office of Administrative Hearings (OAH) at the contested case hearing and evaluated in the Comparative Environmental Analysis prepared for the project.

### ***Environmental Review Requirements for Pipelines***

The review processes established for pipelines, Minnesota Rules Chapter 7852, includes the Environmental Assessment Supplement as part of the pipeline routing permit application, a scoping process and comparative environmental analysis to fulfill the intent and requirements of the Minnesota Environmental Policy Act and Minnesota Rules parts 4410.0200 to 4410.6500.

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<sup>9</sup> NDPC LLC Application to the Minnesota Public Utilities Commission for a Certificate of Need for the Sandpiper Pipeline Project, November 8, 2013, See eDockets at 13-373.

<sup>10</sup> Attachment 3 or See eDockets, Document ID [20146-100299-01](#).

The Minnesota Environmental Quality Board (EQB) developed and approved of the pipeline routing rules (Chapter 7852) as an alternative form of environmental review pursuant to the requirements of Minnesota Rules 4410.3600 [Alternative Review] on February 16, 1989.

Critical to development and approval of the pipeline routing rules was incorporation of the equivalent environmental review requirements established by Minnesota Rules 4410.3600, subp1., items A. through H., to allow for EQB approval of the pipeline rules as an alternative form of environmental review and also to provide for timely review and elimination of duplication.

The EQB determined that the pipeline routing rules satisfied all the conditions for approval as a substitute form of environmental review as provided by Minn. Rules 4410.3600, subp.1, items A. through H. Consequently, pipelines subject to the routing rules are not reviewed through environmental assessment worksheets (EAWs) or environmental impact statements (EISs), but receive equivalent review under the routing and permitting process established by the pipeline routing rules.

This alternative form of environmental review requires preparation of a comparative environmental analysis, which evaluates all of the alternative routes authorized by the Commission for consideration at public hearing.

#### Alternative Route Analysis (Minnesota Rules 7852.1500)

The Commission, in its February 11, 2014, “Order Finding Application Substantially Complete and Varying Timelines; Notice of Hearing”<sup>11</sup> at VII. Comparative Environmental Analysis, authorized EERA staff to prepare the comparative environmental analysis (CEA), along with an initial technical analysis of the record. The Commission stated that the CEA should provide a tool to assist the public and agencies in understanding the environmental consequences of the various alternatives.

The Commission further stated that the CEA should:

- Analyze the environmental consequences of each route and route segment alternative.
- Include a discussion of the proposed project’s compliance with applicable statutes and rules.
- Analyze how well each route meets the routing permit selection criteria set forth in statute and rule.
- Identify routes with common or similar environmental consequences.
- Identify routes that:
  - Require no environmental mitigation
  - Have negative environmental consequences that would need mitigation, together with alternative mitigation strategies
  - Have negative environmental consequences that cannot be mitigated
  - Have fatal flaws.

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<sup>11</sup>Commission Order, dated February 11, 2014, See eDockets, Document ID [20142-96351-01](#), p. 8.

- Include recommendations for permit language, including language specifically drafted for certain routes.

Minnesota Rule 1405 requires that the comparative environmental analysis be submitted as pre-filed testimony.

**Public Information (Scoping) Meetings (Minnesota Rule 7852.1300)**

After acceptance of an application for pipeline route selection, a public information/scoping meeting is held in each county crossed by the applicant’s preferred pipeline route, unless a variance is granted by the Commission, to explain the route designation process, to respond to questions raised by the public, and to solicit comments on route and route segment proposals and other issues that should to be examined in greater detail in the comparative environmental analysis prepared for the project.

Notice of the information meetings was directly mailed to all landowners along the preferred route identified by NDPC in its application, and was published in 22 newspapers in proximity to the proposed project, including both the St. Paul Pioneer Press and Star Tribune.<sup>12</sup> Notice also appeared in the *EQB Monitor*, Vol. 38, No. 4, February 17, 2014.<sup>13</sup>

Between March 3, 2014, and March 13, 2014, Commission and EERA staff held seven public information/scoping meetings in seven of the nine counties crossed by the proposed Sandpiper Project.

**Information/Scoping Meetings for the Sandpiper Project**

COUNTY	CITY	DATE AND TIME	ATTENDANCE	Oral Record of Information Meetings (eDocket ID #, pages)
Polk	Crookston	Monday, March 3, 2014 6:00-9:00pm	90 to 95	<a href="#">20143-97800-01</a> / 165 pages
Polk	McIntosh	Tuesday, March 4, 2014 11:00am-2:00pm	30 to 35	<a href="#">20143-97801-01</a> / 88 pages
Clearwater	Clearbrook	Tuesday, March 4, 2014 6:00-9:00pm	45 to 50	<a href="#">20143-97803-01</a> /135 pages
Hubbard	Park Rapids	Wednesday, March 12, 2014	130 to 140	<a href="#">20143-97805-01</a> 140

<sup>12</sup> Public Information Meeting Notice Compliance, See eDockets, Document ID [20144-98307-02](#).

<sup>13</sup> *EQB Monitor*, Volume 38, No. 4. See eDockets, Document ID [20146-100298-01](#).



		11:00am-2:00pm		pages
Cass	Pine River	Wednesday, March 12, 2014 6:00pm-9:00pm	70 to 80	<a href="#">20143-97807-01</a> / 102 pages
Aitkin	McGregor	Thursday, March 13, 2014 11:00am-2:00pm	90 to 100	<a href="#">20143-97811-01</a> / 145 pages
Carlton	Carlton	Thursday, March 13, 2014 6:00pm-9:00pm	120 to 130	<a href="#">20143-97813-01</a> / 152 pages

The format of the seven information/scoping meetings was the same. All meetings started with an overview presentation provided by the Commission’s public advisor, followed by a brief North Dakota Pipeline Company overview of its Sandpiper Project, then Department of Commerce, Energy Environmental Review and Analysis (EERA) staff provided an overview of the Commission’s route permitting process, which was followed by questions and comments from the public and responses from Commission staff, NDPC and EERA staff.<sup>14</sup>

The initial comment period, as provided for in the public notice, closed April 4, 2014. On April 14, 2014, the Commission issued a “Notice of Extended Comment Period” for the NDPC Pipeline Routing Permit in order to allow the public to submit additional comments on potential human and environmental impacts and alternative pipeline routes to be considered in the comparative environmental analysis. The new deadline for filing comments closed May 30, 2014.

Minnesota Rule 7852.1300 also requires a second round of public information meetings to be held prior to the contested case hearing. These meetings, as well as hearings, must be held in each county through which a route accepted by the Commission for hearing passes to explain the route designation process, present major issues, and respond to questions raised by the public. In recent pipeline proceedings (MinnCan (05-2003) and Alberta Clipper (07-360 and 07-361)), the second public information meeting was held immediately prior to the start of the contested case hearing.

***Comments Received***

Approximately 1087 comments from 940 unique commenters and organizations were received by the close of the comment period on May 30, 2014. Comments were received through various methods including public meeting oral comments, documents submitted to the court reporter and comments submitted by mail, email and fax.

Comments were received from numerous sources, including:

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<sup>14</sup> Commission, NDPC and DOC EERA Power Point Presentation, See eDockets ID # [20142-96875-01](#)

- Tribal: Honor the Earth, Mawinzo AsiniGaazo Berry Pickers, the Minnesota Chippewa Tribe, and White Earth Reservation Tribal Council.
- State Agencies: Minnesota Department of Transportation (MnDOT), Minnesota Department of Natural Resources (DNR), the Minnesota Pollution Control Agency (PCA) and Minnesota Representative Steve Green, District 2B.
- Local Units of Government: Hubbard County, Polk County, and the townships of Arago, Badora, Clover, Lake Emma, Todd and Wrenshall.
- Organization and Business Comments: Association of Cass County Lakes, Big Sandy Lake Association, Carlton County Land Stewards, Detroit Lakes Chamber of Commerce, EOG Resources, Friends of the Headwaters, Hubbard County COLA, Kennecott Exploration Company, Long Lake Association, Minnesota Backcountry Hunters and Anglers, Minnesota Coalition of Lake Associations; Minnesota League of Woman Voters, Minnesota Trout Unlimited, Palmer Lake Organization, Park Rapids League of Woman Voters, Pine River Watershed Alliance, RE/MAX First Choice, The Climate Crisis Coalition of the Twin Cities, Tidal Energy Marketing, Trout Unlimited, Northwestern Minnesota, University of Minnesota Northwest Research and Outreach Center, and White Fish Area Property Owners Association.
- Citizen Comments: Numerous written comments were received from citizens and have been filed alphabetically by last name of the individual commenting.
- North Dakota Pipeline Company

Comments generally fell into the following broad categories:

- **General Opposition:** Opposition was explicitly expressed, whether solely or throughout their comment
- **General Support:** Support was explicitly expressed, whether solely or throughout their comment
- **Wants an EA/EIS:** Request for an EA or EIS process was explicitly expressed by many commenters in reference to the fact that a CEA is planned to be conducted in lieu of an EA or EIS.
- **Extend Comment Period and/or Hold Additional Public Meetings:** Expressed a desire to extend the comment period and to hold additional public meetings to allow for more communication of the project.
- **Need of Project:** Questioned the need for the project.
- **State Parks:** State park land preservation, proximity to it, and comments about routing through state park land
- **Trees/Forests:** Preserving or avoidance of trees and mitigation comments or concerns
- **Wildlife:** Concerns for wildlife and avoidance of impacts to wildlife
- **Impacts to Water:** Preserving water quality and water resources including avoidance of lakes, rivers, streams, wetlands, wells and watersheds

- **General Environmental:** General environmental concerns without a specific concern or location stated or a generalized list of environmental issues; comments on general land use
- **Soils:** Soil concerns for the land use and concerns for soils that transport oil more quickly in the event of a leak
- **Organic Farming:** Specific mention of organic and/or sustainable farming
- **General Agriculture:** Land used for economic cultivation (agriculture) including comments with concerns for wild rice as an agricultural commodity.
- **Health and Safety:** Safety concerns during construction and operation of the pipeline and comments stating general health concerns related to human life
- **Aesthetics:** Visual and appearance concerns during and after construction
- **Tribal and Cultural Resources:** Concerns related to a specific tribe, tribal activity (i.e., wild rice as a cultural way of life) or general cultural resources concerns
- **Property Values and Landowner Rights:** Impact to the value of a home and/or property with the construction of the new pipeline and questions/concerns for the treatment of property owners and their rights
- **Cost of Easement:** Questions or concerns on cost of easement purchases by Enbridge
- **Socioeconomics and Tourism:** Impacts to tourism and the social economics of a community and/or region
- **Preference for an Alternative Route:** Preference for an alternative route including an existing alternative route already proposed or a new route proposed by the commenter.

### Comment Categorization Summary

Special attention was paid to identify each individual comment whether it was submitted multiple times by different people or the same person submitted multiple comments.

Comment Category	Citizens	Organizations and Businesses	Local Units of Government	State Agencies	Tribal	Totals
General Opposition	402	55	1	0	1	459
General Support	30	5	1	1	0	37
Wants an EA/EIS	97	58	0	1	1	157
Extend Comment Period/More Mtgs	53	10	5	0	1	69
Need of Proj	20	1	0	0	0	21
State Parks	33	2	1	0	0	36
Trees/Forests	120	11	0	1	0	132
Wildlife	139	54	1	0	1	195
Impacts to Water Quality	320	29	4	2	2	357
General Env Concern	307	69	5	1	2	384
Soil and Soil Erosion	89	5	1	1	0	96
Organic Farms	133	9	1	0	0	143
General Agricultural Impacts	188	51	1	1	2	243
Health and Safety	93	10	2	1	1	107
Aesthetics	5	0	0	0	0	5
Tribal Concerns	83	45	1	0	4	131
Property Values	48	1	0	0	0	49
Cost of Easement	18	0	0	0	0	18
Tourism	51	5	1	0	0	57
Preference for an Alternative Route	309	30	4	2	2	347

### ***Route and Route Segment Proposals and Acceptance by the Commission***

The Commission is now being asked to determine what routes and route segments will be considered at the contested case hearing for the Sandpiper Project and analyzed in the Comparative Environmental Analysis (CEA).

Route proposal acceptance is addressed in Minnesota Rules 7852.1400, Subp. 1 as follows:

The Commission shall accept for consideration at the public hearing the routes and route segments proposed by the applicant and may accept for public hearing any other route or route segment it considers appropriate for further consideration. No route shall be considered at the public hearing unless accepted by the Commission before the notice of the hearing. Routes shall be identified by the Commission in accordance with part 7852.1600. A proposer of a route or route segment that the Commission has accepted for consideration at the hearing shall make an affirmative presentation of facts on the merits of the route proposal at the public hearing.

If the proposal contains the required information, the Commission must consider acceptance of the route proposal for public hearing. Minnesota Rule 7852.1400 provides that no route shall be considered at the public hearing unless accepted by the Commission before notice of the hearing.

The comment period for identification of route or route segment alternatives to the proposed North Dakota Pipeline Company (Enbridge) Sandpiper pipeline ended May 30, 2014. During the comment period, approximately 1090 comments were received by letter, email and verbal communications recorded by a court reporter at seven public meetings. The written and verbal comments were screened to determine whether commenters had proposed alternatives, yielding a total of 62 proposals. As necessary, commenters were contacted to clarify the location and purpose of their proposals.

The attached *Sandpiper Alternative Routes Summary Report*, prepared by the Department of Commerce Energy Environmental Review and Analysis (EERA) with assistance from HDR Inc., is a summary of those system and route alternatives; it includes recommendations on routes or route segments for consideration at public hearing and evaluation in the CEA pursuant to Minnesota Rule 7852.1400, Route Proposal Acceptance.

The 62 proposals were then sorted into two categories, system alternatives and route alternatives, based on an evaluation of whether the proposal addressed the purpose of the Sandpiper project as proposed by NDPC.

### **System Alternatives**

A system alternative is an alternate that proposes a different configuration of pipelines for moving oil from the Williston Basin than the Applicant's proposal. It is a wholly separate or independent route from the Applicant's proposed route and is, in essence, a different project than the one proposed by the applicant.

Enbridge is requesting a route permit to transport oil produced in North Dakota to the terminals in Clearbrook, Minnesota, and Superior, Wisconsin. Minnesota Rule 7852.0100, subpart 31, defines a route as “the proposed location of a pipeline between two end points.” In this docket, Enbridge has requested a route from the North Dakota border to Clearbrook and from Clearbrook to Superior. Thus, the project, for route permit application purposes, is defined by these three points.

However, eight alternatives proposed during the comment period do not connect with one or more of these three points (*Sandpiper Alternative Routes Summary Report*, Table 1 and Figure 1). The proposed system alternatives include routing the pipeline far north or far south of the applicant’s proposed route. None of the system alternatives would connect to the new Clearbrook terminal. Three of the system alternatives do not connect into Enbridge’s Superior Terminal.

**Proposed System Alternatives (SA-01 through SA-08)** (See *Sandpiper Alternative Routes Summary Report* Figure 1)

**SA-01.** SA-01 was offered by Robert and Karen Lindesmith; it calls for the pipeline upon entering Minnesota to proceed in a northeasterly direction to enter Canada, with no clear connection to terminals in Clearbrook or Superior. If this alternative were to enter the United States at some point east of Lake Superior and return to Superior, it would be approximately 1,200 miles in length. The proposers offered no additional information in support of this system alternative.

EERA staff believes that this system alternative fails to meet the applicant’s stated project purpose, as it does not connect to a terminal in Clearbrook terminal and may or may not terminate at the Superior terminal. Therefore, EERA staff recommends that the Commission not accept SA-01 as proposed for further consideration in this proceeding.

**SA-02.** SA-02 was offered by Sharon Natzel, Long Lake Area Association, as a system alternative to avoid impacting ground water resources and the lakes area of northern Minnesota. SA-02 is approximately 340 miles in length and attempts to follow existing road rights-of-way and areas without extensive water resources. Although SA-02 does not connect to a terminal in Clearbrook, it does connect back into Enbridge’s Mainline Corridor and does terminate in Superior.

**SA-03.** SA-03 was suggested by the Minnesota Pollution Control Agency (PCA) as a system alternative to avoid the lakes areas crossed by NDPC’s preferred route and to provide for a new terminal in the Crookston area, so as to provide for greater routing flexibility for future pipeline projects.

As proposed, this system alternative would follow the existing 24-inch Viking natural gas pipeline southward to Clay County, then southeast across the counties of Becker, Ottertail, Wadena, Todd, Morrison, Benton, Milles Lacs and Isanti before proceeding northward generally following either a 8-inch Magellan petroleum products pipeline or a Northern Natural Gas Pipeline, in proximity to I-35 through the counties of Chicago, Pine and Carlton before

connecting with one of the proposed Sandpiper route alternatives in Carlton County. SA-03 as proposed is approximately 360 miles long.

Similar to other system alternatives proposed, it does not provide for a connection to a terminal in Clearbrook. If the new proposed Clearbrook terminal were moved westward to the Crookston area, as suggested by the proposer, a pipeline would still be required to extend from a Crookston terminal to Clearbrook in order to provide oil to MinnCan and Minnesota Pipeline for transport to refineries in the Twin Cities.

**SA-04.** System alternative SA-04, suggested by Friend of the Headwaters (FOH), is proposed to follow the existing Alliance Pipeline, a hot gas natural gas pipeline, with an outside diameter of approximately 42-inches built in 2000 that traverses North and South Dakota, Minnesota, Iowa and Illinois and is approximately 1,050 miles in length. SA-04 does not connect with terminals in Clearbrook or Superior. This alternative was proposed to avoid the lakes areas traversed by the NDPC Sandpiper proposed route. The Alliance Pipeline route crosses the Minnesota counties of Traverse, Stevens, Swift, Chippewa, Kandiyohi, Renville, Sibley, Nicollet, Blue Earth, Waseca, Freeborn and Mower, crossing primarily agricultural land in Minnesota. The Alliance Pipeline was permitted by the Federal Energy Regulatory Commission (FERC) and was the first pipeline project in Minnesota to require an agricultural mitigation plan.

**SA-05.** SA-05, also suggested by FOH, if it were to connect to Superior would be approximately 1,100 miles in length. As with SA-04, it also follows a gas pipeline, the Northern Border Natural Gas Pipeline that cuts across southwestern Minnesota, through the counties of Lincoln, Lyon, Murray, Cottonwood, Jackson and Martin.

SA-05 does not connect with the terminals in Clearbrook or Superior.

**SA-06.** SA-06, also suggested by FOH, would follow Minnesota Highway 9 south, until it intersects an existing Magellan products pipeline, approximately 8 to 12-inches in diameter, that it would follow south and east to a point where it intersects with the existing 24-inch MinnCan crude oil pipeline. It would then follow the MinnCan route to the refineries, then continue north along the I-35 corridor in proximity to the 8-inch Magellan products pipeline and Northern Natural Gas Pipeline until it intersects with other Sandpiper route alternatives.

As a part of this proposal it was also suggested that the pipeline route could follow an existing 8-inch Magellan products pipeline east into Wisconsin until it intersects the existing Enbridge right-of-way at which point a pipeline could be built to carry the oil back up to Superior or down to Chicago.

EERA believes that SA-06 partially satisfies the stated project purpose because it does connect back to the terminal in Superior. However, SA-06 does not connect to the Clearbrook terminal. The proposer of this SA-06 does not indicate how it would proceed north from the refinery through the Twin Cities and suburbs.

**SA-07.** SA-07, also suggested by FOH, may be viewed as a combination of two different system alternatives: first, as a combination of SA-07 and SA-06, and the second as a combination of SA-07 and SA-08.

SA-07 and SA-06 when combined to form SA-07 would follow I-29 in North Dakota to Fargo, then follow the same corridor east and southeast adjacent to I-94, then follow an existing Magellan product pipeline south and east to a point where it intersect with the MinnCan 24-inch crude oil pipeline and follow it to Minnesota's two refineries. At those points it is suggested that the pipeline can proceed northward to the Duluth area by following I-35 or the existing Magellan product and Northern Natural Gas pipelines to a point where it intersects with other Sandpiper route alternative and then proceed to the Superior terminal.

The other system alternative would combine SA-07 and SA-08, by following SA-08 (I-94) and extending it through the Twin Cities along the freeway or existing Magellan product pipeline to 1) a point where it intersects I-35 and two other pipelines (Magellan and Northern Natural Gas) that proceed northward as described above, or 2) follow an existing Magellan Product pipeline east into Wisconsin until it intersect the existing Enbridge right-of-way at which point a pipeline could be built to carry the oil back up to Superior or down to Chicago.

Because SA-07 does not connect to a terminal in Clearbrook terminal or provide viable means for locating a pipeline in the Twin Cities, EERA staff recommends that the Commission should not accept SA-07 for further consideration in this proceeding.

**SA-08.** As proposed by Honor the Earth, SA-08 would be located adjacent to or within the right-of-way of I-29 and I-94. Also, SA-08 does not connect to terminals in Clearbrook or Superior.

**Route Alternatives (RA-01 through RA-54)** (See *Sandpiper Alternative Routes Summary Report* Tables 2 through 6 and Figures 2-6)

A route alternative deviates from the applicant's preferred route to address a commenter's concern or issue. Fifty four route alternatives were proposed during the comment period. The alternatives were suggested by the Applicant, agencies and individuals.

Enbridge provided 23 of the 54 route alternatives in order to address individual landowner concerns, agency concerns, engineering constraints or constructability issues. The Minnesota Department of Natural Resources and Minnesota Pollution Control Agency also offered suggestions for routing options, including following Enbridge's mainline corridor that contains up to seven pipelines, the Great Lakes Natural Gas Pipeline, Highway 2 and the Soo Line railroad right-of-way. Some of these routing options vary in length from 30 to 205 miles. Many are shorter options submitted by landowners to address a specific concern related to location on their property.

Specific maps of each route alternative are included in Appendix A of the *Sandpiper Alternative Routes Summary Report*, which is not attached due to size but will be filed separately documents.

## EERA Staff Analysis and Comments

EERA find that all 54 route alternative proposals were submitted within the time frame established by the Commission. In addition, EERA believes that all contain the information required in Minnesota Rule 7852.1400, Subp. 2., in order for the Commission to make a decision as to whether they should be accepted for hearing and analysis in the CEA. EERA finds that they provide options for avoiding and minimizing identified issues associated with the Applicant's proposed route.

However, one landowner offered three route alternatives, RA-31, 34 and 35, to address concerns related to his property. EERA believes that the longest of these, RA-31, need not be carried forward given analysis of the other two route alternatives.

### *System Alternatives*

Because the proposed system alternatives are not alternative routes for meeting the purpose of the project as identified in the permit application, EERA does not believe that these alternatives are appropriate for further consideration. NDPC articulated a similar position in its May 30, 2014, letter regarding route alternatives.<sup>15</sup>

In addition, several system alternatives suggest placing the pipeline adjacent to or within the interstate rights-of-way. Federal Highway Administration and MnDOT right-of-way accommodation policies prohibit longitudinal placement of utility facilities within the fenced area of the Interstate Highway System. Currently a 345 kV High Voltage Transmission Line (HVTL) permitted by the Commission is being built along I-94 between Moorhead and Monticello, Minnesota, limiting the opportunity for further longitudinal placement adjacent to that highway's right-of-way.

However, EERA believes that two proposals, SA-02 and SA-03, might be appropriate for further consideration if connector segments between them and the Clearbrook terminal were developed. (See Attachment 5)

**SA-02 Possible Modification.** EERA staff believes that SA-02, as proposed, partially satisfies the stated project purpose; however, it provides no connection to a terminal in Clearbrook. With the addition of a connector to Clearbrook, SA-02 could provide a "northern option."

One possible modification to SA-02 would be to follow the Sandpiper proposed route to Clearbrook and develop a route segment that would proceed north to join SA-02. Beginning at the terminal in Clearbrook, this route segment would proceed westward paralleling Line 81 or extending northwest from the new Clearbrook terminal to a point where it intersects with Polk County Highway 2, then generally paralleling Polk County Highway 2, Pennington County Highway 27 and Marshall County Highway 28, until it intersects SA-02, then proceeds east and north of the Red Lake Indian Reservation. This route segment modification to SA-02 is approximately 35 miles in length and does not appear to present significant routing constraints at this time.

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<sup>15</sup> See eDockets (13-474) Document ID [20145-99996-01](#)



**SA-03 Possible Modification.** As with SA-02, this system alternative does not provide for a connection with the new Clearbrook terminal.

One possible modification to SA-03 would be to follow the Sandpiper proposed route until it veers east south of Park Rapids. This modified alternative would follow NDPC's proposed route to Clearbrook and from the proposed Clearbrook terminal continue along the proposed route southward paralleling the existing 24-inch MinnCan and 16-inch pipelines in the existing Minnesota Pipeline rights-of-way. However, rather than turning eastward near the city of Hubbard just south of Park Rapids, this route alternative would continue south through the counties of Todd, Wadena and Morrison, paralleling the MinnCan and Minnesota Pipeline rights-of-way to approximately Mile Post 119 on the MinnCan pipeline in Morrison County, where it would intersect with the existing 24-inch Viking Natural Gas Pipeline, and join SA-03 system alternative described above. At the point where the Viking pipeline intersects the 8-inch Magellan products pipeline and the Northern Natural Gas Pipeline, as described above, the route would proceed northward to connect with the Superior terminal.

This route modification is shorter than SA-03 and would parallel a crude oil pipeline system rather than a natural gas pipeline. This could provide for better utilization of existing right-of-way, consolidating crude oil pipelines in one corridor rather than two, and provide for higher concentration of emergency responders, equipment and supply materials when responding to a crude oil pipeline incident.

The MinnCan project received both a certificate of need and route permit from the Commission in 2007 (See Route Permit Docket 05-2003), and was constructed in accordance with the requirements of the Commission issued permit. Other portions of the Minnesota Pipeline system comprised of two 16-inch pipelines and pipeline loops, obtained route permits from the Minnesota Environmental Quality Board when jurisdiction resided with the Board. The record from those previous proceedings may help inform this docket.

Where concerns have been expressed along the proposed Sandpiper route between Clearbrook and Hubbard County, six route alternatives (RA-09, RA-10, RA-11, RA-12, RA-13, and RA-14) have been proposed to mitigate potential project impacts.

Another possible modification of SA-03 would be to follow the Sandpiper proposed route to Clearbrook and then back-track to the Viking Line to join SA-03.

### ***Line 3 Replacement Program***

On March 3, 2014, Enbridge Energy Limited Partnership announced that it received shipper support for the Line 3 Replacement Program (L3R) to replace the existing 34-inch located on its mainline right-of-way, along most of its route from Edmonton, Alberta, to Superior, Wisconsin, with a new 36-inch pipeline and associated facilities.

In Minnesota, Enbridge proposes that Line 3 will be replaced along its existing mainline pipeline route from the North Dakota/Minnesota, border to Clearbrook, Minnesota. This portion of the route will cross the Minnesota counties of Kittson, Marshall, Pennington, Red Lake, Polk and

Clearwater. Between Clearbrook and the Minnesota/Wisconsin border – approximately 225 miles – Enbridge is proposing to locate the L3R pipeline along its preferred route for the Sandpiper Pipeline. Enbridge anticipates filing the Certificate of Need and Pipeline Route Permit applications for the L3R Project with the Commission in April 2015. Consequently, EERA will include evaluation of the right-of-way needed for this pipeline in the CEA for the Sandpiper project.

NDPC in its May 30, 2014, filing (Exhibit D),<sup>16</sup> provided tables showing the potential additive impacts of the preliminary L3R Project route. The section and table numbers correspond to the number in its Minnesota Environmental Information Report filed on January 31, 2014.

## **DOC EERA Staff Recommendation**

Fifty-three of the 54 route alternatives received during the comment period are recommended to be carried forward for analysis in the CEA. EERA believes that they provide options for avoiding and minimizing identified issues associated with the Applicant's proposed route and are appropriate for further consideration. Route alternative RA-31 is not recommended to be carried forward, because the same landowner offered two other route alternatives that addressed similar concerns.

### ***Wider Analysis Areas*** (See *Sandpiper Alternative Routes Summary Report* Figures 7-11)

In general, a width of 500 feet is recommended to be used to analyze the proposed and alternate routes in the CEA. In most cases, this width provides ample room for the development of a centerline. However, there are several areas where a wider width would be beneficial to the analysis, due to existing conditions or the presence of multiple route alternatives in close proximity to each other. These areas are listed below. Widths of up to 6,500 feet are recommended for analysis in these areas, except in the Crow Wing Wildlife Management Area as discussed below.

#### **Carlton County 1**

Eight route alternatives (RA-42 to RA-49) were suggested in an area surrounding several existing pipelines, Highway 61, and Interstate-35 in Carlton County (Figure 7). A width ranging from 2,500 feet to 6,500 feet would allow for flexibility in using different parts of the route alternatives to develop a route that minimizes impacts.

#### **Carlton County 2**

Carlton County 2 is a smaller area adjacent to Carlton County 1 and encompasses three route alternatives (RA-50, 51, and 52) that deviate slightly from the proposed route (Figure 7). A width of 1,500 feet to 2,500 feet would allow for analysis of these alternatives.

#### **Aitkin County**

Four route alternatives (RA-33 to RA-36) were suggested in Aitkin County along Highway 65 (Figure 8). A width of 1,500 feet to 4,700 feet would allow for flexibility in comparing the alternatives and developing a route that minimizes impacts.

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<sup>16</sup> See eDockets (13-474) Document ID [20145-99996-02](#), p. 78-97.

### **Spire Valley Aquatic Management area**

The DNR requested that a wider width be analyzed in this area (RA-20) to find routes to avoid and minimize potential impacts to the Spire Valley fish hatchery, due to construction activities (Figure 9). The width recommended for this area is 3,000 feet.

### **Crow Wing Chain Wildlife Management Area (Crow Wing WMA)**

The DNR expressed concerns regarding the crossing of the Crow Wing Chain WMA (RA-16) because of deed restrictions associated with gifted properties from the Nature Conservancy to the State. Enbridge provided a route alternative in late June to avoid the WMA. A width of 9,400 feet is recommended, which would provide flexibility in further developing a route in the area of the WMA (Figure 10).

### **LaSalle Creek**

Two similar route alternatives (RA-09 and 10) were suggested to minimize impacts to Big LaSalle Lake and LaSalle Creek (Figure 11). A 6,500 foot width is recommended to allow for flexibility to avoid impacts to Big LaSalle Lake and LaSalle Creek.

### **Northern Pipelines**

Numerous commenters, including the DNR and PCA, expressed interest in analyzing existing pipeline corridors (Enbridge and Great Lakes) that run generally along Highway 2 from Clearbrook to Superior (RA-7 and 8). A width of 500 feet to 6,500 feet would allow flexibility in following the existing pipelines, railroad, and/or Highway 2 and is based on the proximity of the existing infrastructure to each other.

### ***System Alternatives***

EERA does not believe that any of the eight system alternatives are appropriate for further consideration in the routing docket hearing and CEA analysis because they do not meet the purpose of the project as identified in the permit application and are, therefore, not alternative routes for accomplishing the purpose of the project.

As described above, EERA believes that two system alternatives, SA-02 and SA-03, could be modified to include connections to Clearbrook, thus meeting the purpose of the project. The Commission may want to consider whether these proposals as modified are appropriate for further consideration.



**Legend**

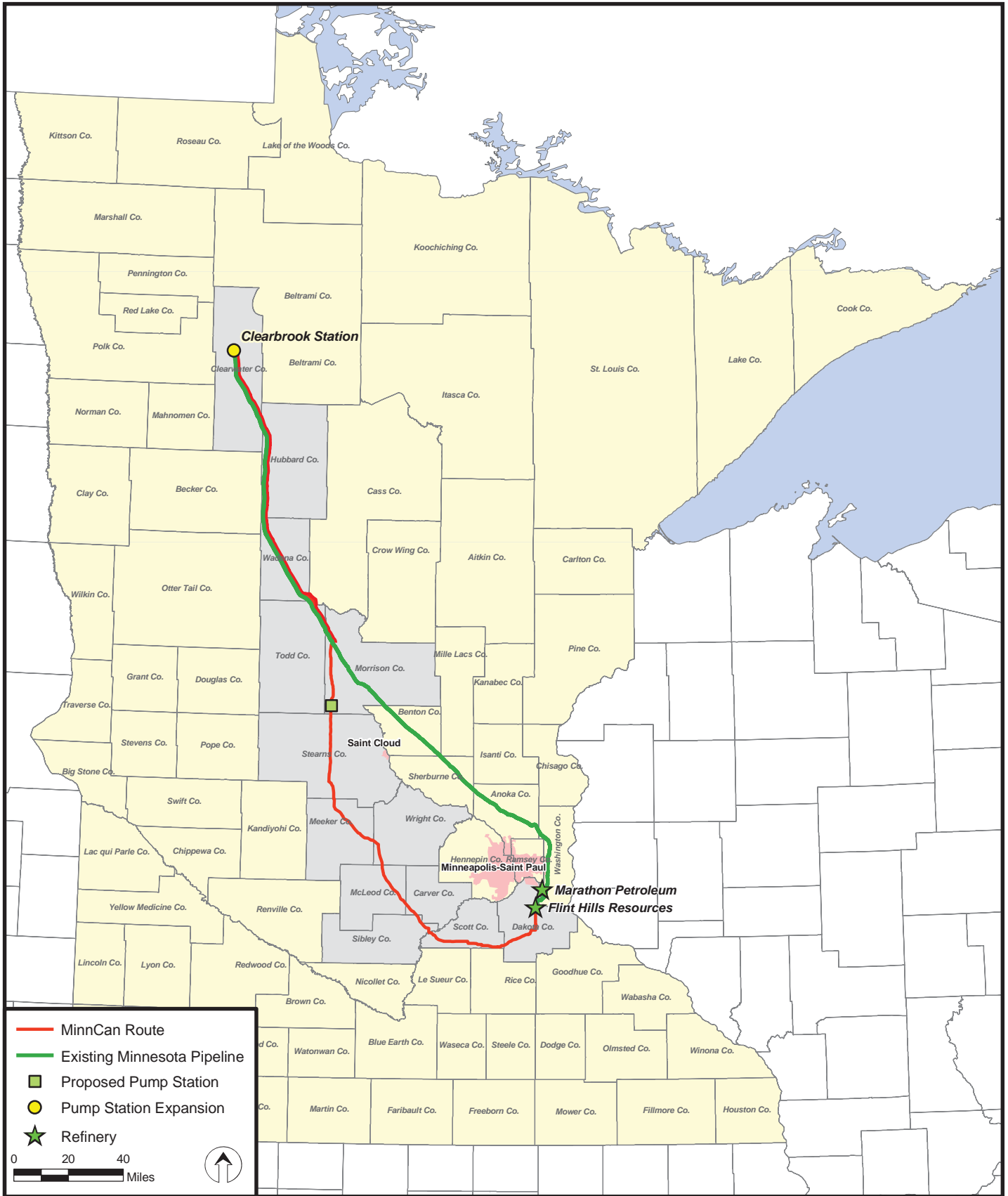
- New Sandpiper Pump Station at Existing Enbridge Facility
- New Sandpiper Pump Station
- Proposed Mile Post
- Existing Facilities
- Existing Enbridge Pipelines
- Preliminary Route

**ENBRIDGE**  
 MINNESOTA STATE  
 SANDPIPER PRELIMINARY ROUTE MAP



0 5 10  
 Miles Date: 12/13/2013

MLB

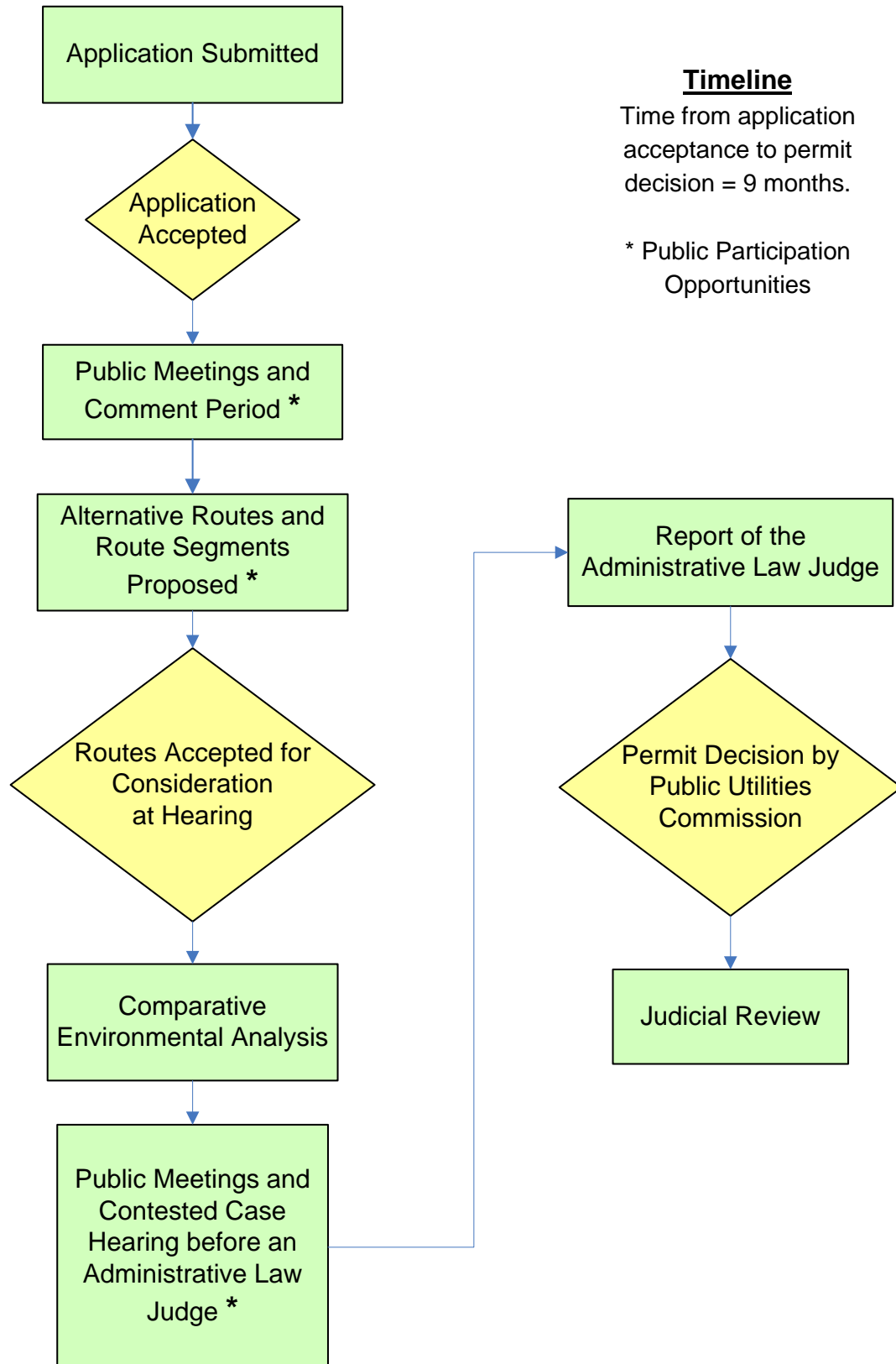


# Minnesota Pipeline Existing Route Map

DATE: 12/10/05  
 REVISED: 01/03/06  
 SCALE: 1:3,125,000  
 DRAWN BY: RSMcGREGOR  
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## Pipeline Routing Full Permitting Process

### Minnesota Rules 7852



#### Timeline

Time from application acceptance to permit decision = 9 months.

\* Public Participation Opportunities

# Sandpiper Alternative Routes Summary Report

In the Matter of the Application of North Dakota Pipeline Company LLC for  
a Pipeline Routing Permit for the Sandpiper Pipeline Project in Minnesota

Docket No. PL-6668/PPL-13-474

July 16, 2014

Prepared by Minnesota Department of Commerce, Energy Environmental Review and Analysis  
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## Summary of System and Route Alternatives

The comment period for identification of route or route segment alternatives to the proposed North Dakota Pipeline Company (Enbridge) Sandpiper pipeline ended May 30, 2014. During the comment period, approximately 1090 comments were received by letter, email and verbal communications recorded by a court reporter at seven public meetings. The written and verbal comments were screened to determine whether commenters had proposed alternatives, yielding a total of 62 proposals. As necessary, commenters were contacted to clarify the location and purpose of their proposals.

The 62 proposals were then sorted into two categories: system alternatives and route alternatives.

This Sandpiper Alternative Routes Summary Report, prepared by the Department of Commerce Energy Environmental Review and Analysis (EERA), is a summary of those system and route alternatives and provides recommendations on routes or route segments for consideration at public hearing and evaluation in the Comparative Environmental Analysis (CEA) pursuant to Minnesota Rule 7852.1400, Route Proposal Acceptance.

### System Alternatives

**A system alternative** is an alternate that proposes a different configuration of pipelines for moving oil from the Williston Basin than the applicant's proposal. It is a wholly separate or independent route from the Applicant's proposed route and is, in essence, a different project than the one proposed by the applicant.

Enbridge is requesting a route permit to transport oil produced in North Dakota to the terminals in Clearbrook, Minnesota, and Superior, Wisconsin. Minnesota Rule 7852.0100, subpart 31, defines a route as "the proposed location of a pipeline between two end points." In this docket, Enbridge has requested a route from the North Dakota border to Clearbrook and from Clearbrook to Superior. Thus, the project, for route permit application purposes, is defined by these three points.

However, eight alternatives proposed during the comment period do not connect with one or more of these three points (Table 1 and Figure 1). The proposed system alternatives include routing the pipeline far north or far south of the applicant's proposed route. None of the system alternatives would connect to the new Clearbrook terminal. Three of the system alternatives do not connect into Enbridge's Superior Terminal.

Because the proposed system alternatives are not alternative routes for meeting the purpose of the project as identified in the permit application, EERA does not believe that these alternatives are appropriate for further consideration.

Two proposals, SA-02 and SA-03, might be appropriate for further consideration if connector segments between them and the Clearbrook terminal were developed.

## System Alternatives

Table 1: Proposed System Alternatives (Figure 1)

Comment Number	System Alternative Number	Commenter	County/State	Comment <sup>1</sup>	Evaluation <sup>2</sup>
50	SA-01	Robert and Karen Lindesmith	N/A	Would like Enbridge to route through Canada	The route does not go through Clearbrook, which provides redundant delivery if a component is out of service, or terminate at Superior.
94	SA-02	Sharon Natzel (Long Lake Area Association )	Northern Minnesota	Commenter route proposal is intended to maximize the protection of the clearest waters of northern Minnesota and the groundwater that are most susceptible. Ronald Vegemast, commenter 156, suggested a very similar route.	The route does not go through Clearbrook, which provides redundant delivery if a component is out of service. Needs connector to Clearbrook. Estimated at 340 miles in length.
182	SA-03	Minnesota Pollution Control Agency	Minnesota	Route would follow the existing 24-inch Viking Natural Gas Pipeline south and southeast to Chisago County, then turn north paralleling existing 8-inch Magellan refined products pipeline and/or a Northern Natural Gas Pipeline to a point where it would interconnect with Sandpiper Alternative Routes in Carlton County, then to terminal in Superior. Calls for new terminal in Crookston area.	The route does not go through Clearbrook, which provides redundant delivery if a component is out of service. Needs connector to Clearbrook. Estimated at 360 miles in length.
116A	SA-04	Friends of the Headwaters	North Dakota, South Eastern Minnesota, Iowa, Illinois	Follows the Alliance Natural Gas Pipeline to parallel an existing pipeline right-of-way; traverses primarily agricultural land and avoids the freshwater lakes.	The route does not go through Clearbrook, which provides redundant delivery if a component is out of service, or terminate at Superior. Estimated at 1050 miles in length.
116B	SA-05	Friends of the Headwaters	North Dakota, South Dakota, Minnesota, Iowa, Illinois	This route is modeled after 116A and parallels the Northern Border Natural Gas Pipeline, traversing primarily agricultural land and avoids crossing the Red River of the North.	The route does not go through Clearbrook, which provides redundant delivery if a component is out of service, or terminate at Superior. Estimated at 1100 miles in length.

Comment Number	System Alternative Number	Commenter	County/State	Comment <sup>1</sup>	Evaluation <sup>2</sup>
116C	SA-06	Friends of the Headwaters	North Dakota, Minnesota	<p>Route would follow Minnesota Highway 9 south, until it intersects existing Magellan 8 to 12-inch product pipeline that it would follow south and east to a point where it crosses the MinnCan pipeline, then follow the MinnCan alignment to the existing Minnesota refineries, then continue north by following I-35 or the Northern Natural Gas and Magellan products pipelines north to a point where the route would intersect with the Sandpiper route alternatives in Carlton County and then continue to the terminal in Superior.</p> <p>Also suggested that pipeline route could follow the 8-inch Magellan products pipeline east into Wisconsin and then follow Enbridge's existing pipeline right-of-way back to Superior or down to the Chicago area.</p>	<p>The route does not go through Clearbrook, which provides redundant delivery if a component is out of service. Needs connector to Clearbrook. Estimated at 390 miles in length.</p>
116D	SA-07	Friends of the Headwaters	North Dakota, Minnesota	<p>SA-07 can be viewed as a combination of two different systems. One is a combination of SA-07 and SA-06, and the other as a combination of SA-07 and SA-08. See Figure 1 System Alternatives.</p> <p>SA-07 and SA-06 when combined to form SA-07, would follow I-29 in North Dakota to Fargo, then follow the same corridor east southeast adjacent to I-94, then follow an existing Magellan product pipeline south and east to a point where it intersects with the MinnCan 24-inch crude oil pipeline to Minnesota's two existing refineries. At those points it is suggested that the pipeline can proceed northward to the Duluth area by following I-35 or the existing Magellan product and Northern Natural gas pipelines to a point when they can interconnect with other alternative Sandpiper routes that continue to the Wisconsin border and terminal in Superior.</p> <p>The other system alternative would combine SA-07 and SA-08, by following SA-08 (I-94) and extending it through the Twin Cities along the freeway or existing Magellan product pipeline to 1) a point where it intersects I-35 and two other pipelines (Magellan and Northern Natural Gas) that proceed northward as described above, or 2) follow an existing Magellan Product pipeline east into Wisconsin until it intersect the existing Enbridge right-of-way at which point a pipeline could be built to carry the oil back up to Superior or down to Chicago.</p>	<p>The route does not go through Clearbrook, which provides redundant delivery if a component is out of service. Needs connector to Clearbrook. Estimated at 395 miles in length.</p>

Comment Number	System Alternative Number	Commenter	County/State	Comment <sup>1</sup>	Evaluation <sup>2</sup>
133	SA-08	Honor the Earth		Wants route to follow I-29 in North Dakota and I-94 in Minnesota.	The route does not go through Clearbrook, which provides redundant delivery if a component is out of service, or terminate at Superior. Estimated at 400 miles in length, if continued on to Superior.

<sup>1</sup> Comment: The comment column is a summary of the issue that was identified in the comment submitted during notice period.

<sup>2</sup> Evaluation: The evaluation column describes why the system alternative will not be further analyzed.

## Route Alternatives

*A route alternative* deviates from the applicant's preferred route to address a commenter's concern or issue. Fifty four route alternatives were proposed during the comment period. The alternatives were suggested by Enbridge, Minnesota Department of Natural Resource (DNR), Minnesota Pollution Control Agency (PCA), and stakeholders. A route alternative was deemed viable if it met the purpose and need of the project and contained no apparent major engineering or environmental issue, based on a visual desktop assessment.

The proposed project is approximately 300 miles long and because of its length the results of the screening effort have been divided into five geographic areas to illustrate locations of the proposed route alternatives (Tables 2 through 6 and Figures 2 through 6):

- North Dakota to Clearbrook
- Clearbrook to Wisconsin
- Clearbrook to Aitkin County
- Aitkin County
- Carlton County

Specific maps of each route alternative are included in Appendix A.

## North Dakota to Clearbrook

The North Dakota to Clearbrook area includes five route alternatives, as shown on Figure 2. A brief summary of the comment regarding the route alternative and the justification for moving forward with the alternative is included in Table 2, below.

**Table 2: North Dakota to Clearbrook**

Route Alternative Number	County	Project Section	Comment <sup>1</sup>	Justification <sup>2</sup>	Enbridge Alt <sup>3</sup>	Comment Database Number	Comment Source <sup>4</sup>	Length (miles)
RA-01	Polk	North Dakota to Clearbrook	Co-locating the proposed pipeline with the existing line 81 would reduce habitat fragmentation and there would be fewer cumulative effects	Addresses DNR concerns regarding fragmentation and stream erosion. Impacts new property owners.		186	PC	3.76
RA-02	Polk	North Dakota to Clearbrook	Route alternative requested to move pipeline further away from property owner house, Wants pipeline to be 700 feet away from home instead of 200 feet	The route alternative impacts the same environmental features as he proposed route and new landowners are impacted.	5/30 #1		EPC	1.61
RA-03	Polk	North Dakota to Clearbrook	Route alternative requested to minimize impacts to agricultural research sites. Avoidance of "Field 18" and moving north to drainage ditch in "Field 17" to make sure field 18 can still be used in future research	Addresses University of Minnesota's concern regarding future use of field research plots and does not impact new property owners.	5/30 #2	66	EPC	1.88
RA-04	Polk	North Dakota to Clearbrook	Route alternative to avoid an overhead power line.	Route alternative increases safety during construction. Environmental impacts are the same and no new landowners are impacted.	5/30 #3		ED	0.23
RA-05	Clearwater	North Dakota to Clearbrook	Route alternative requested to accommodate refinement of facility design at the Clearbrook Terminal.	Route alternative impacts the same environmental features as the proposed route and no new landowners are impacted.	5/30 #4		ED	0.33

<sup>1</sup> Comment: The comment column is a summary of the issue that was identified in the comment submitted during notice period.

<sup>2</sup> Justification: The justification column describes why the route alternative is being carried forward for further analysis.

<sup>3</sup> Enbridge Alternative: The Enbridge alternative column tracks routes developed to address commenter concerns by Enbridge according to their letter submittal dates of 4/4 or 5/30.

<sup>4</sup> Comment Source: PC = Public comment submitted route during comment period; EPC = Public comment submitted route during comment period, Enbridge submitted route that addresses the comment; ELO = Enbridge submitted route that addresses an unknown landowner concern; ED = Enbridge submitted route that addresses an engineering design concern

## Clearbrook to Wisconsin

The Clearbrook to Wisconsin includes three route alternatives from Clearbrook to just west of the Wisconsin/Minnesota border following either existing pipelines or going north around several lakes and the Leech Lake Band of Ojibwe Reservation. The route alternatives are shown on Figure 3.

Table 3: Clearbrook to Wisconsin

Route Alternative Number	County	Project Section	Comment <sup>1</sup>	Justification <sup>2</sup>	Enbridge Alt <sup>3</sup>	Comment Database Number	Comment Source <sup>4</sup>	Length (miles)
RA-06	Clearwater, Beltrami, Koochiching, Itasca	Clearbrook to Wisconsin	The pipeline should be routed to the north around the lakes area.	Addresses commenters concerns regarding lakes area impacts. Route alternative would impact the Chippewa National Forest (CNF), state forest land and the Dishpan Wildlife Management Area (WMA).		3	PC	205.52
RA-07	Clearwater, Beltrami, Koochiching, Itasca	Clearbrook to Wisconsin	The pipeline should be routed with existing pipelines along highway 2. (Enbridge's mainline)	Addresses commenter's and DNR and PCA concerns regarding lakes area impacts. Route alternative would impact the CNF and the Leech Lake Band of Ojibwe Reservation (LLBO). In addition, the alternative would cross several populated areas.		3	PC	179.82
RA-08	Great Lakes Gas Pipeline	Clearbrook to Wisconsin	The pipeline should be routed with existing Great Lakes pipelines that run generally south of Hwy 2 through Beltrami, Cass, Itasca and St Louis Counties	Addresses DNR concerns regarding lakes area impacts and utilizing existing corridors. Route alternative would impact the CNF, the Leech Lake Band of Ojibwe Reservation (LLBO). In addition, the route would cross several populated areas and is space limited due to other utilities within the corridor.		186	PC	174.22

<sup>1</sup> Comment: The comment column is a summary of the issue that was identified in the comment submitted during notice period.

<sup>2</sup> Justification: The justification column describes why the route alternative is being carried forward for further analysis.

<sup>3</sup> Enbridge Alternative: The Enbridge alternative column tracks routes developed to address commenter concerns by Enbridge according to their letter submittal dates of 4/4 or 5/30.

<sup>4</sup> Comment Source: PC = Public comment submitted route during comment period; EPC = Public comment submitted route during comment period, Enbridge submitted route that addresses the comment; ELO = Enbridge submitted route that addresses an unknown landowner concern; ED = Enbridge submitted route that addresses an engineering design concern

## Clearbrook to Aitkin County

The Clearbrook to Aitkin County area includes 10 route alternatives, as shown on Figure 4. Several of the alternatives were developed to avoid sensitive resources in the Big LaSalle Lake and LaSalle Creek area.

Table 4: Clearbrook to Aitkin County

Route Alternative Number	County	Project Section	Comment <sup>1</sup>	Justification <sup>2</sup>	Enbridge Alt <sup>3</sup>	Comment Database Number	Comment Source <sup>4</sup>	Length (miles)
RA-09	Clearwater Hubbard	Clearbrook to Aitkin County	Alternative route starting in Section 11 of Itasca Township in Clearwater County and Hattie Township in Hubbard County to avoid the Big LaSalle Lake area.	Avoids the Big LaSalle Lake area, however, impacts new property owners.		194	PC	8.05
RA-10	Clearwater	Clearbrook to Aitkin County	Big La Salle Creek alternative, lack of access near crossing of LaSalle Creek could result in delayed spill response times, suggest moving route to a crossing that is more accessible	Addresses PCA concern for more accessible crossing, farther away from Big LaSalle Lake. Alternative recommended would impact new property owners.		182	PC	6.83
RA-11	Clearwater	Clearbrook to Aitkin County	Route Alternative proposed to accommodate a landowner request to avoid the lake.	This re-route reduces impacts to lake front property and is further away from Big LaSalle Lake. No new landowners will be impacted.	4/4 #1		ELO	0.90
RA-12	Hubbard	Clearbrook to Aitkin County	Route alternative is being requested to remove a temporary workspace from adjacent land.	Route alternative requested by landowner because it would impact fewer property owners. No new landowners will be impacted.	4/4 #2		ELO	0.34
RA-13	Hubbard	Clearbrook to Aitkin County	Route alternative requested to route through North Dakota Pipeline Company land recently purchased.	Re-route environmental impacts are the same and no new landowners are impacted.	5/30 #5		ED	0.18
RA-14	Hubbard	Clearbrook to Aitkin County	Route alternative being requested because two property owners want the pipeline further away from structures.	Re-route does not involve new landowners; however, it does move the route onto an existing landowner's property. This alternative would avoid taking down two barns.	4/4 #3		ELO	1.57



Route Alternative Number	County	Project Section	Comment <sup>1</sup>	Justification <sup>2</sup>	Enbridge Alt <sup>3</sup>	Comment Database Number	Comment Source <sup>4</sup>	Length (miles)
RA-15	Hubbard	Clearbrook to Aitkin County	Twin Lakes route alternative, lack of access near Twin Lakes and Shell river could result in delayed spill response times. Twin Lakes are identified as wild rice lakes by the DNR.	Addresses PCA concern for more accessible crossing. Alternative recommended would impact new property owners and traverse an area of center pivot irrigation. It would also be closer to the town of Hubbard.		182	PC	9.46
RA-16	Hubbard, Wadena	Clearbrook to Aitkin County	Enbridge provided a route to avoid the Crow Wing WMA due to easement restrictions.	Addresses DNR concerns of avoiding the WMA. Alternative would impact new landowners.			ELO	10.46
RA-17	Cass	Clearbrook to Aitkin County	Route Alternative being proposed to avoid a large wetland complex in Foot Hill State Forest.	Route alternative would impact 1 wetland the original route impacts 2. Both the original and alternative are within the Foot Hill State Forest.	4/4 #4		ED	0.41
RA-18	Cass	Clearbrook to Aitkin County	Route alternative requested to accommodate changes to engineering design to add a pipeline inspection gauge launcher and receiver trap.	Route alternative environmental impacts are the same and no new landowners are impacted.	5/30 #6		ED	0.18
RA-19	Cass	Clearbrook to Aitkin County	Route alternative requested that the pipeline be constructed near an existing fence line.	Route alternative impacts more greenfield than the original route and does not affect new landowners.	5/30 #7		ELO	1.11
RA-20	Aitkin	Clearbrook to Aitkin County	DNR requested a wider route south of the Spire Valley Fish Hatchery to minimize impacts the hatchery.	The wider route provides flexibility to address DNR concerns about the fish hatchery.		186	PC	1.25

<sup>1</sup> Comment: The comment column is a summary of the issue that was identified in the comment submitted during notice period.

<sup>2</sup> Justification: The justification column describes why the route alternative is being carried forward for further analysis.

<sup>3</sup> Enbridge Alternative: The Enbridge alternative column tracks routes developed to address commenter concerns by Enbridge according to their letter submittal dates of 4/4 or 5/30.

<sup>4</sup> Comment Source: PC = Public comment submitted route during comment period; EPC = Public comment submitted route during comment period, Enbridge submitted route that addresses the comment; ELO = Enbridge submitted route that addresses an unknown landowner concern; ED = Enbridge submitted route that addresses an engineering design concern

## Aitkin County

The Aitkin County area includes 23 route alternatives, as shown on Figure 5. Several of the route alternatives suggested in this area were landowner requests that the pipeline avoid structures on their property. In addition, a number of the route alternatives suggested to avoid sensitive natural resources.

Table 5: Aitkin County

Route Alternative Number	County	Project Section	Comment <sup>1</sup>	Justification <sup>2</sup>	Enbridge Alt <sup>3</sup>	Comment Database Number	Comment Source <sup>4</sup>	Length (miles)
RA-21	Aitkin	Aitkin County	DNR recommended the Aitkin County Power Line as a route alternative to eliminate concerns regarding Sandy River fisheries and wild rice habitat as well as trout stream habitat. This would also avoid 3.1 miles of WMA's and follows existing corridor.	Addresses DNR concerns regarding the fisheries and habitat impacts, however, it does impact new property owners.		186	PC	53.88
RA-22	Aitkin, St Louis, Carlton	Aitkin County	DNR recommended a route alternative that would avoid critical habitat in the Big Sandy lake watershed as well as Grayling Marsh WMA, McGregor WMA, Lawler WMA and Salo Marsh WMA.	Addresses DNR concerns related to resources in the area follows existing corridors, however, impacts new property owners.		186	PC	38.82
RA-23	Aitkin	Aitkin County	The Aitkin County Soo Line Route Alternative was considered in the Enbridge January 31, 2014 Permit Application but removed from further analysis by the company.	The Soo Line Route Alternative removed from further analysis by Enbridge is being carried forward into the route analysis because it was recommended by several landowners throughout the comment period and it would parallel the existing ATV trail.			PC	31.13
RA-24	Aitkin	Aitkin County	Commenter proposing route alternative to minimize forest fragmentation and avoid old growth forests in the Hill River State Park	Route impacts less greenfield. The applicant proposed route and the suggested route alternative are both located in the Hill River State Park.	4/4 #6	186	EPC	1.65
RA-25	Aitkin	Aitkin County	Commenter would like the route to move to the east across wetland (former rice paddy areas) to preserve all high land for future building plans.	Addresses landowner concern. Alternative recommended would not impact new property owners.	5/30 #8	229	EPC	0.61
RA-26	Aitkin	Aitkin County	Commenter would prefer route alternative that would veer south and southeast from the intersection of US Highway 169 and CSAH 3 west of Palisade.	Route alternative impacts state forest land and new landowners.	4/4 #7	262	EPC	3.41
RA-27	Aitkin, Carlton	Aitkin County	DNR is recommending that the analysis includes the Soo line to avoid the McGregor SNA and the Sandy River watershed	Addresses DNR concerns related to the McGregor SNA and the Sandy River Watershed.		186	PC	13.23

Route Alternative Number	County	Project Section	Comment <sup>1</sup>	Justification <sup>2</sup>	Enbridge Alt <sup>3</sup>	Comment Database Number	Comment Source <sup>4</sup>	Length (miles)
RA-28	Aitkin	Aitkin County	Commenter suggested a route alternative that turns south in Aitkin County and meets back with the proposed route to the east.	There was a map submitted during the comment period without a written comment attached. Based on the aerial image the proposed route was suggested to avoid gravel pits.		757	PC	3.50
RA-29	Aitkin	Aitkin County	Commenter suggested a route alternative suggested accommodating landowner request related to future home sites along the road.	Route alternative would impact more greenfield and wetland. There would be no new landowner impacts.	4/4 #8		ELO	0.66
RA-30	Aitkin	Aitkin County	Route alternative requested to avoid bending the pipeline in the road ditch which could impact the integrity of the roadway.	Route alternative environmental impacts would be the same and no new landowners are impacted.	5/30 #9		ELO	0.07
RA-31	Aitkin	Aitkin County	Commenter requested a route alternative to cut straight and diagonally across several miles in Aitkin County.	Addresses commenter concern regarding distance from home. Alternative recommended would impact new property owners.		2.3	PC	6.12
RA-32	Aitkin	Aitkin County	Commenter is requesting that the pipeline be located on Aitkin County Tax forfeit land which avoids an Old Growth Forest.	Addresses commenter concerns which would avoid the old growth forest would put route alternative on tax forfeit land.		75	PC	0.45
RA-33	Aitkin	Aitkin County	Commenter would like the pipeline moved east to the back edge of his property where it joins with the Peat Plant.	Addresses commenter concern and would impact new property owners.		89	PC	1.80
RA-34	Aitkin	Aitkin County	Commenter suggesting shifting the pipeline north into the tree line.	Addresses commenter concern regarding distance from home. Alternative recommended would impact new property owners.		2.1	PC	2.22
RA-35	Aitkin	Aitkin County	Commenter suggesting route alternative that would cut south on township road 270th and traverse east until it meets with the proposed route.	Addresses commenter concern regarding distance from home. Alternative route would impact new property owners and potentially impact a peat farm.		2.2	PC	1.72
RA-36	Carlton	Aitkin County	Commenter suggesting a route alternative to shift the pipeline to the north into tree line.	Route alternative addresses concern with other environmental impacts the same as the proposed route; no new landowners are impacted.	5/30 #10		ELO	0.38

Route Alternative Number	County	Project Section	Comment <sup>1</sup>	Justification <sup>2</sup>	Enbridge Alt <sup>3</sup>	Comment Database Number	Comment Source <sup>4</sup>	Length (miles)
RA-37	Aitkin, Carlton	Aitkin County	Commenter suggesting Route Alternative that would parallel Hwy 210 after mile marker 550 then turn south to reconnect with the proposed route south of Cloquet.	The recommended route alternative would follow existing corridor, avoiding the Salo Marsh and Lawler WMA.		756.1	PC	38.68
RA-38	Aitkin, Carlton	Aitkin County	Commenter suggested a Route Alternative to avoid the Salo Marsh WMA.	Route alternative avoids the Salo Marsh WMA and does not impact new property owners.	5/30 #11		ELO	6.73

<sup>1</sup> Comment: The comment column is a summary of the issue that was identified in the comment submitted during notice period.

<sup>2</sup> Justification: The justification column describes why the route alternative is being carried forward for further analysis.

<sup>3</sup> Enbridge Alternative: The Enbridge alternative column tracks routes developed to address commenter concerns by Enbridge according to their letter submittal dates of 4/4 or 5/30.

<sup>4</sup> Comment Source: PC = Public comment submitted route during comment period; EPC = Public comment submitted route during comment period, Enbridge submitted route that addresses the comment; ELO = Enbridge submitted route that addresses an unknown landowner concern; ED = Enbridge submitted route that addresses an engineering design concern

## Carlton County

The Carlton County area includes thirteen route alternatives, as shown on Figure 6. Many of the route alternatives from landowners request that the pipeline avoid structures on their property.

**Table 6: Carlton County**

Route Alternative Number	County	Project Section	Comment <sup>1</sup>	Justification <sup>2</sup>	Enbridge Alt <sup>3</sup>	Comment Database Number	Comment Source <sup>4</sup>	Length (miles)
RA-39	Carlton and Aitkin	Aitkin County	Commenter would prefer route alternative that veers south of proposed route near Salo Marsh WMA Impoundment to avoid mineral development land.	Addresses commenter concern. Alternative recommended would impact new property owners, the Salo Marsh, and State Forest Land.		183	PC	9.01
RA-40	Carlton	Carlton County	Commenter suggested a route to use county land to the north of property owners land.	Addresses commenter concern regarding distance from home. Alternative recommended would not impact new property owners.		756.2	PC	1.04
RA-41	Carlton	Carlton County	Commenter suggested shifting the pipeline south to avoid a beaver dam.	Addresses commenter concern regarding the impacts to the beaver dam. Alternative recommended would not impact new property owners.	4/4 #9		ELO	0.61
RA-42	Carlton	Carlton County	Commenter requesting to co-locate pipeline with an existing power line corridor.	Addresses commenter concern. Alternative recommended would impact new property owners.		152	PC	3.48
RA-43	Carlton	Carlton County	Commenter suggesting to move pipeline to north side of Hwy 61, co-locating it with a utility corridor.	Addresses commenter concerns regarding continuity of utility corridors. Alternative recommended would impact new property owners.		34	PC	3.08
RA-44	Carlton	Carlton County	Commenter suggested following and existing utility corridor on the north side of Highway 61 to avoid the Blackhoof watershed.	Addresses commenter concern regarding groundwater flow around the watershed. Alternative recommended would impact new property owners.		97	PC	7.66
RA-45	Carlton	Carlton County	Commenter suggested following south side of Highway 61 to avoid the Blackhoof Watershed	Addresses commenter concern regarding ground water flow around the watershed. Alternative recommended would impact new property owners.		97	PC	7.13

Route Alternative Number	County	Project Section	Comment <sup>1</sup>	Justification <sup>2</sup>	Enbridge Alt <sup>3</sup>	Comment Database Number	Comment Source <sup>4</sup>	Length (miles)
RA-46	Carlton	Carlton County	Commenter suggested shifting the pipeline to the south, running parallel to County Road 61.	Addresses commenter concern. Alternative recommended would impact new property owners.		121	PC	1.91
RA-47	Carlton	Carlton County	Route alternative requested moving the pipeline south to avoid a grove of trees.	Addresses commenter concern regarding distance from the trees. Alternative would not impact new property owners.	4/4 #10		ELO	0.85
RA-48	Carlton	Carlton County	Commenter suggested shifting the pipeline to the other side of I-35 to avoid cutting off access road.	Addresses commenter concerns regarding road access. Alternative recommended would impact new property owners.		68	PC	1.28
RA-49	Carlton	Carlton County	Commenter requested to follow the south sides of I-35 and Highway 61 to distance pipeline from multiple properties.	Addresses commenter concern. Alternative recommended would impact new property owners.		162	PC	5.96
RA-50	Carlton	Carlton County	Commenter requested to reduce the number of Blackhoof River crossings.	Addressed commenter concern reducing river crossings down from 4 to 1. Increases wetland and greenfield impacts. Alternative would not impact new landowners	4/4 #11		PC	0.56
RA-51	Aitkin	Carlton County	Commenter proposed shifting the pipeline north to follow the tree line and distance it from homesteads.	Addresses commenter concern regarding distance from home. Alternative recommended would impact new property owners.		1	PC	1.41
RA-52	Aitkin	Carlton County	Commenter proposed shifting the pipeline north to follow the tree line and distance it from homesteads.	Addresses landowner concern regarding distance from home. Alternative would impact new property owners.		1	PC	0.84
RA-53	Carlton	Carlton County	Enbridge requested route alternative to avoid multiple crossings of an overhead power line.	Addresses crossing concerns and reduces the number of property owners impacted. Also, has about the same environmental impacts as the original route.	4/4 #12		ED	0.20
RA-54	Carlton	Carlton County	Commenter suggested locating the pipeline closer to an existing natural gas line.	Addresses commenter concerns regarding co-locating the pipeline. Reduces impacts to greenfield; no new property owners impacted.	4/4 #13		ELO	0.31

<sup>1</sup> Comment: The comment column is a summary of the issue that was identified in the comment submitted during notice period.

<sup>2</sup> Justification: The justification column describes why the route alternative is being carried forward for further analysis.

<sup>3</sup> Enbridge Alternative: The Enbridge alternative column tracks routes developed to address commenter concerns by Enbridge according to their letter submittal dates of 4/4 or 5/30.

<sup>4</sup> Comment Source: PC = Public comment submitted route during comment period; EPC = Public comment submitted route during comment period, Enbridge submitted route that addresses the comment;  
ELO = Enbridge submitted route that addresses an unknown landowner concern; ED = Enbridge submitted route that addresses an engineering design concern

## Recommended Route Alternatives

Fifty-four route alternatives were proposed by Enbridge, agencies and stakeholders. Fifty-three of the 54 route alternatives are recommended to be carried forward for analysis in the CEA. Route alternative RA-31 is not recommended to be carried forward, because the same landowner offered two other route alternatives that addressed similar concerns.

In general, a width of 500 feet is recommended to be used to analyze the proposed and alternate routes in the CEA. In most cases, this width provides ample room for the development of a centerline. However, there are several areas where a wider width would be beneficial to the analysis, due to existing conditions or the presence of multiple route alternatives in close proximity to each other. These areas are listed below. Widths of up to 6,500 feet are recommended for analysis in these areas.

### Wider Analysis Areas

#### CARLTON COUNTY 1

Eight route alternatives (RA-42 to RA-49) were suggested in an area surrounding several existing pipelines, Highway 61, and Interstate-35 in Carlton County (Figure 7). A width ranging from 2,500 feet to 6,500 feet would allow for flexibility in using different parts of the route alternatives to develop a route that minimizes impacts.

#### CARLTON COUNTY 2

Carlton County 2 is a smaller area adjacent to Carlton County 1 and encompasses three route alternatives (RA-50, 51, and 52) that deviate slightly from the proposed route (Figure 7). A width of 1,500 feet to 2,500 feet would allow for analysis of these alternatives.

#### AITKIN COUNTY

Four route alternatives (RA-33 to RA-36) were suggested in Aitkin County along Highway 65 (Figure 8). A width of 1,500 feet to 4,700 feet would allow for flexibility in comparing the alternatives and developing a route that minimizes impacts.

#### SPIRE VALLEY AQUATIC MANAGEMENT AREA

The DNR requested that a wider route alternative width be analyzed in this area (RA-20) to minimize potential impacts to the Spire Valley fish hatchery, due to construction activities (Figure 9). The width recommended for this area is 3,000 feet.

#### CROW WING CHAIN WILDLIFE MANAGEMENT AREA (CROW WING WMA)

The DNR expressed concerns regarding the crossing of the Crow Wing Chain WMA (RA-16) because of deed restrictions associated with gifted properties from the Nature Conservancy to the State. Enbridge provided a route alternative in late June to avoid the WMA. A width of 9,400 feet is recommended, which would provide flexibility in further developing a route in the area of the WMA (Figure 10).

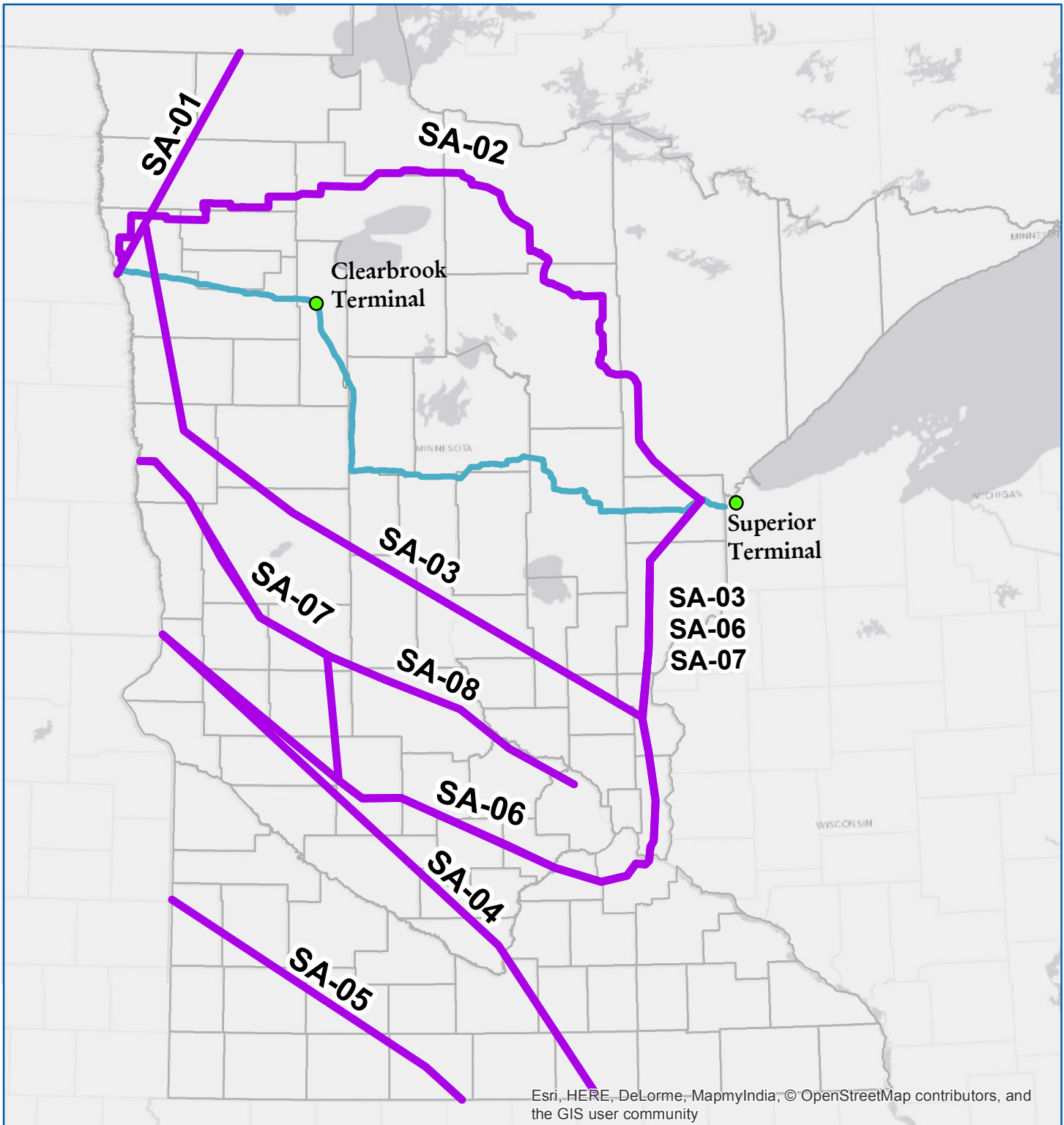
#### LASALLE CREEK

Two similar route alternatives (RA-09 and 10) were suggested to minimize impacts to Big LaSalle Lake and LaSalle Creek (Figure 11). A 6,500 foot width is recommended to allow for flexibility to avoid impacts to Big LaSalle Lake and LaSalle Creek.



#### **NORTHERN PIPELINES**

Numerous commenters, including the DNR and PCA, expressed interest in analyzing existing pipeline corridors (Enbridge and Great Lakes) that run generally along Highway 2 from Clearbrook to Superior (RA-7 and 8). A width of 500 feet to 6,500 feet would allow flexibility in following the existing pipelines, railroad, and/or Highway 2 and is based on the proximity of the existing infrastructure to each other.



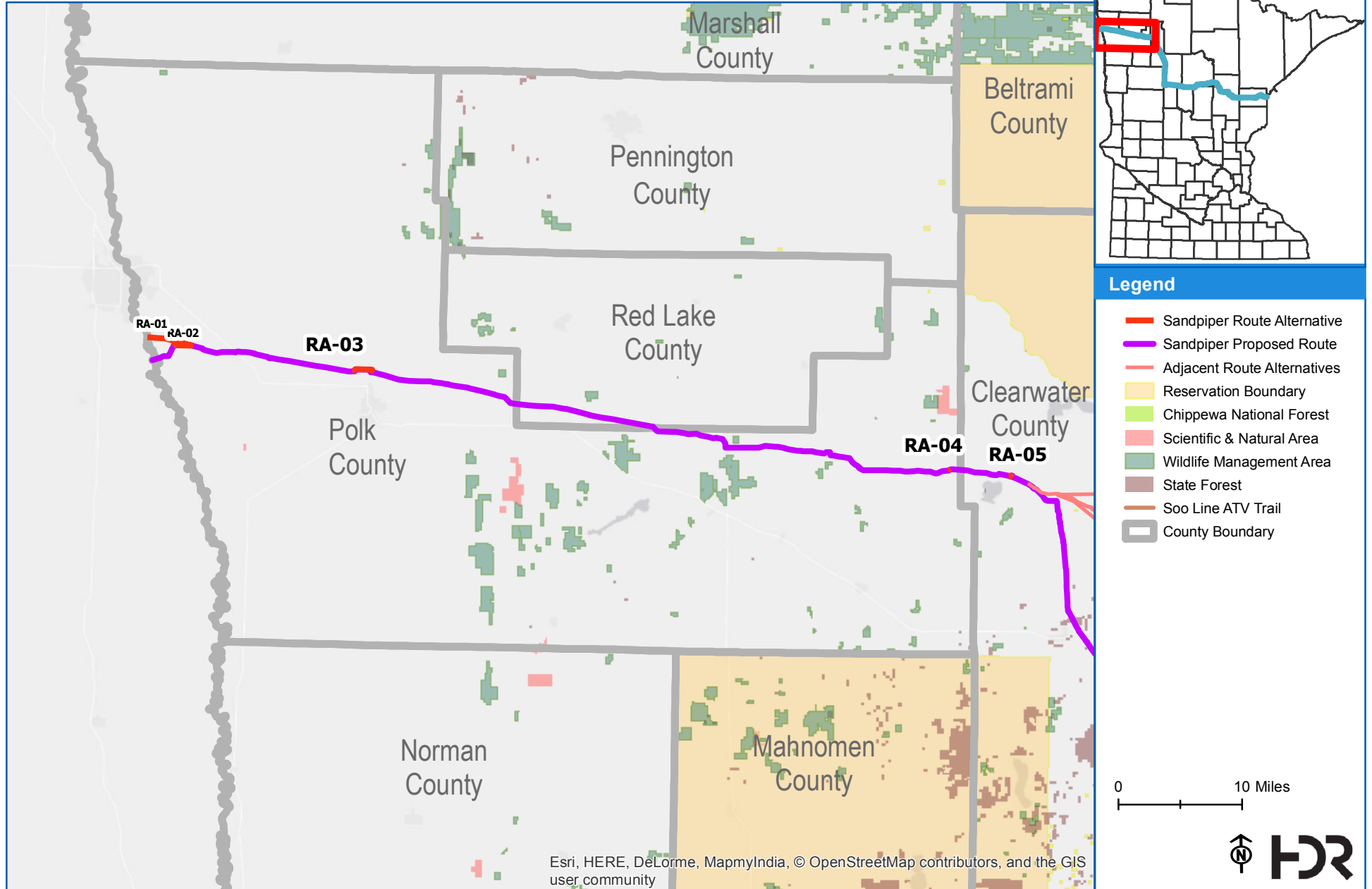
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- System Alternative
- System Alternative Connector
- Sandpiper Proposed Route
- County Boundary

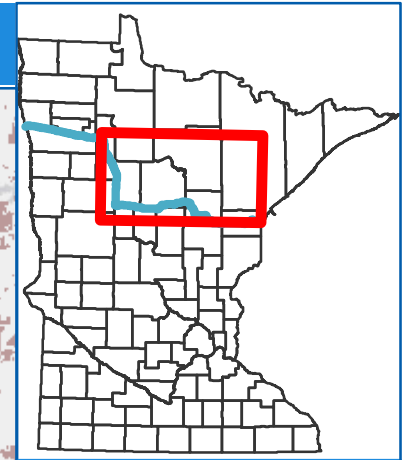
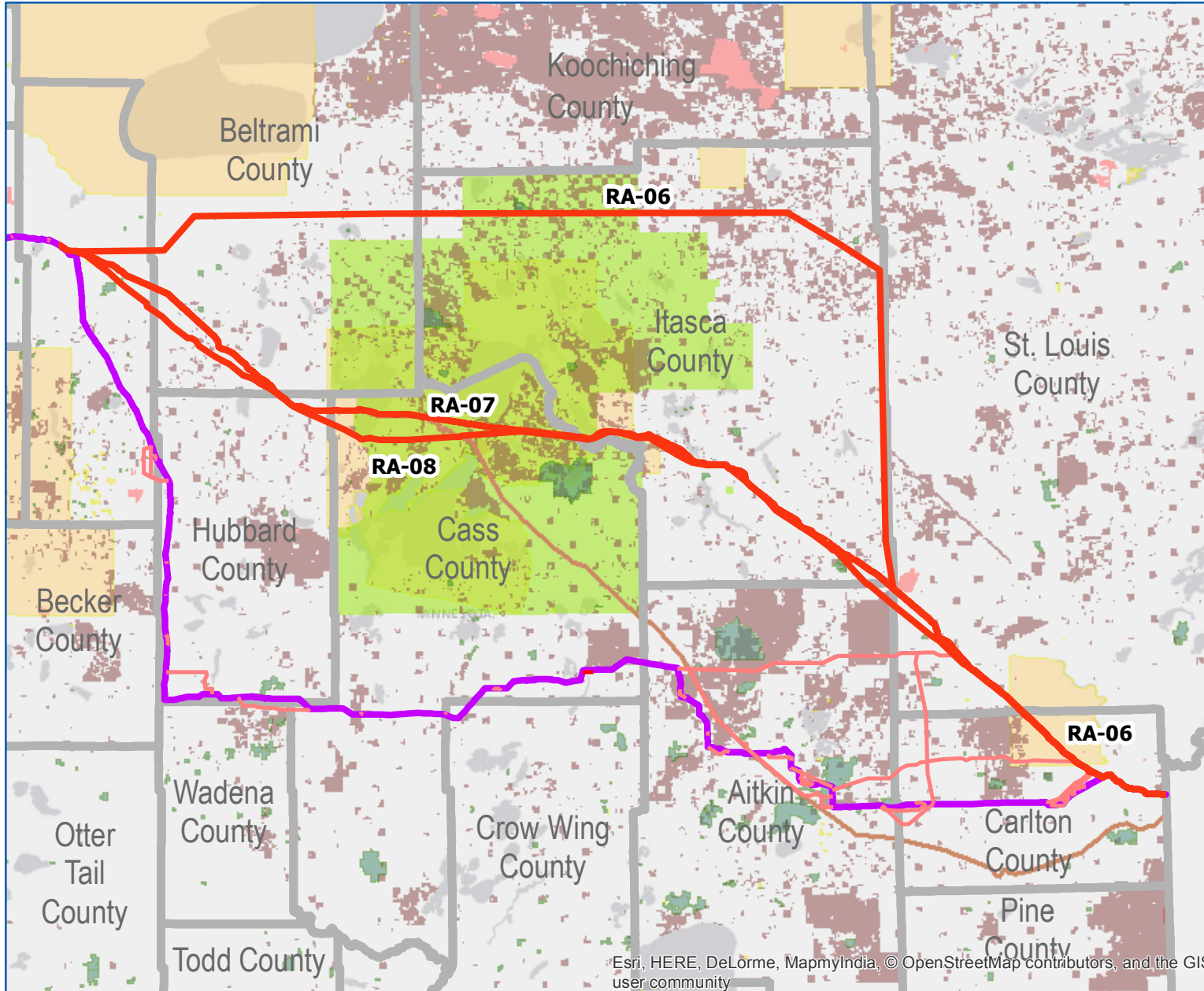


0 100 Miles

**Figure 2 North Dakota to Clearbrook  
Sandpiper Route Alternatives**



**Figure 3 Clearbrook to Wisconsin  
Sandpiper Route Alternatives**



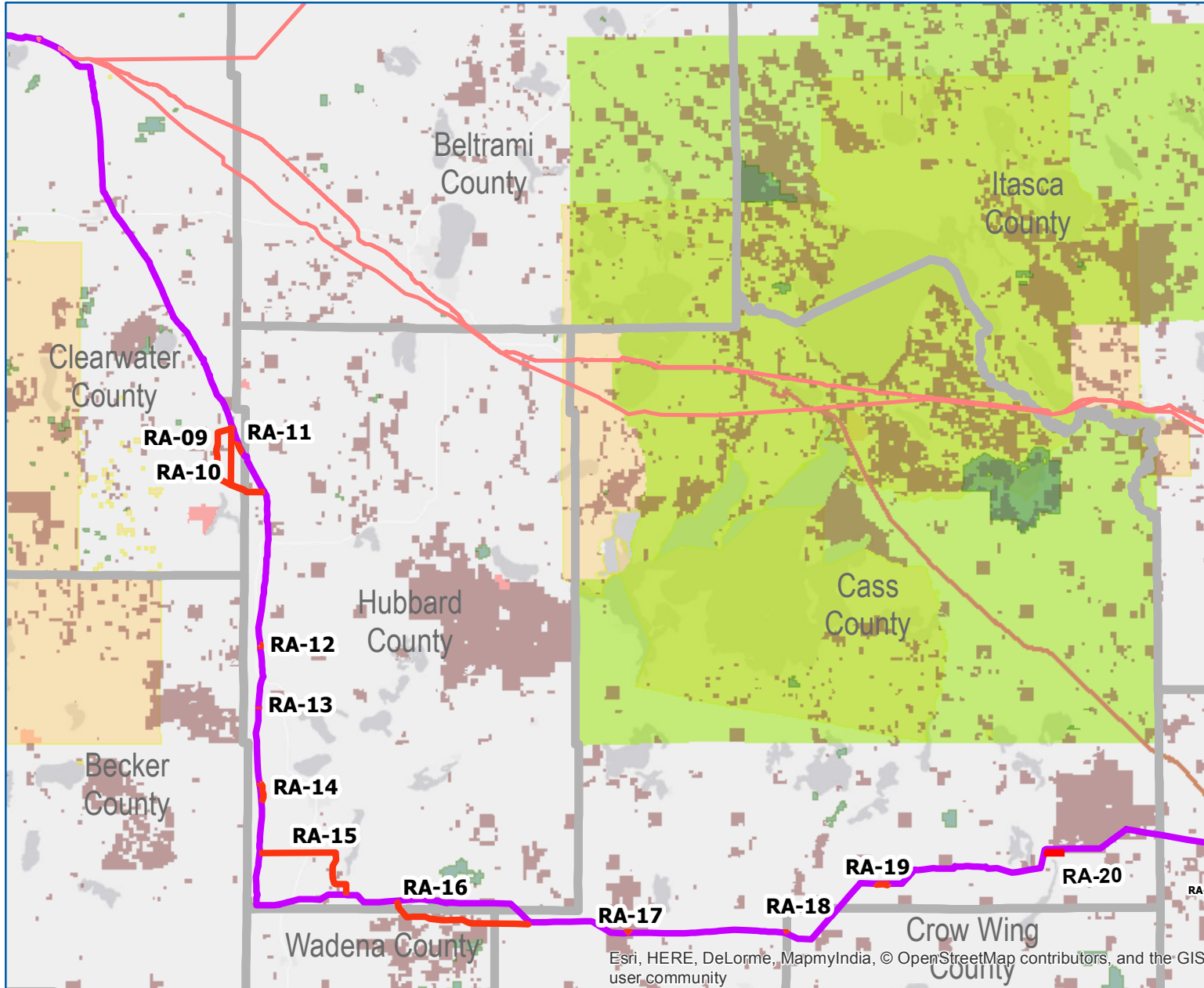
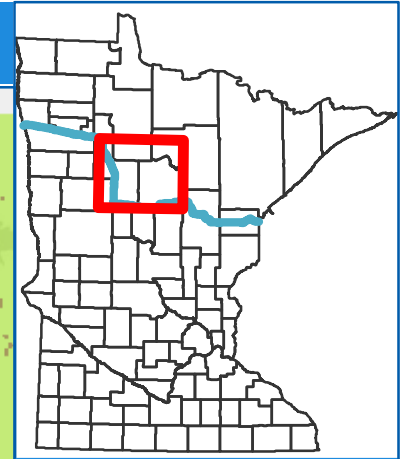
**Legend**

- Sandpiper Route Alternative
- Sandpiper Proposed Route
- Adjacent Route Alternatives
- Reservation Boundary
- Chippewa National Forest
- Scientific & Natural Area
- Wildlife Management Area
- State Forest
- Soo Line ATV Trail
- County Boundary

0 25 Miles



**Figure 4 Clearbrook to Aitkin County  
Sandpiper Route Alternatives**



**Legend**

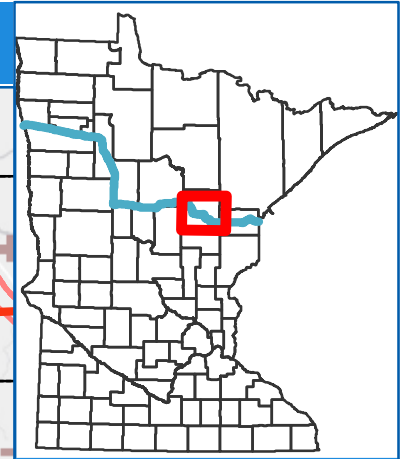
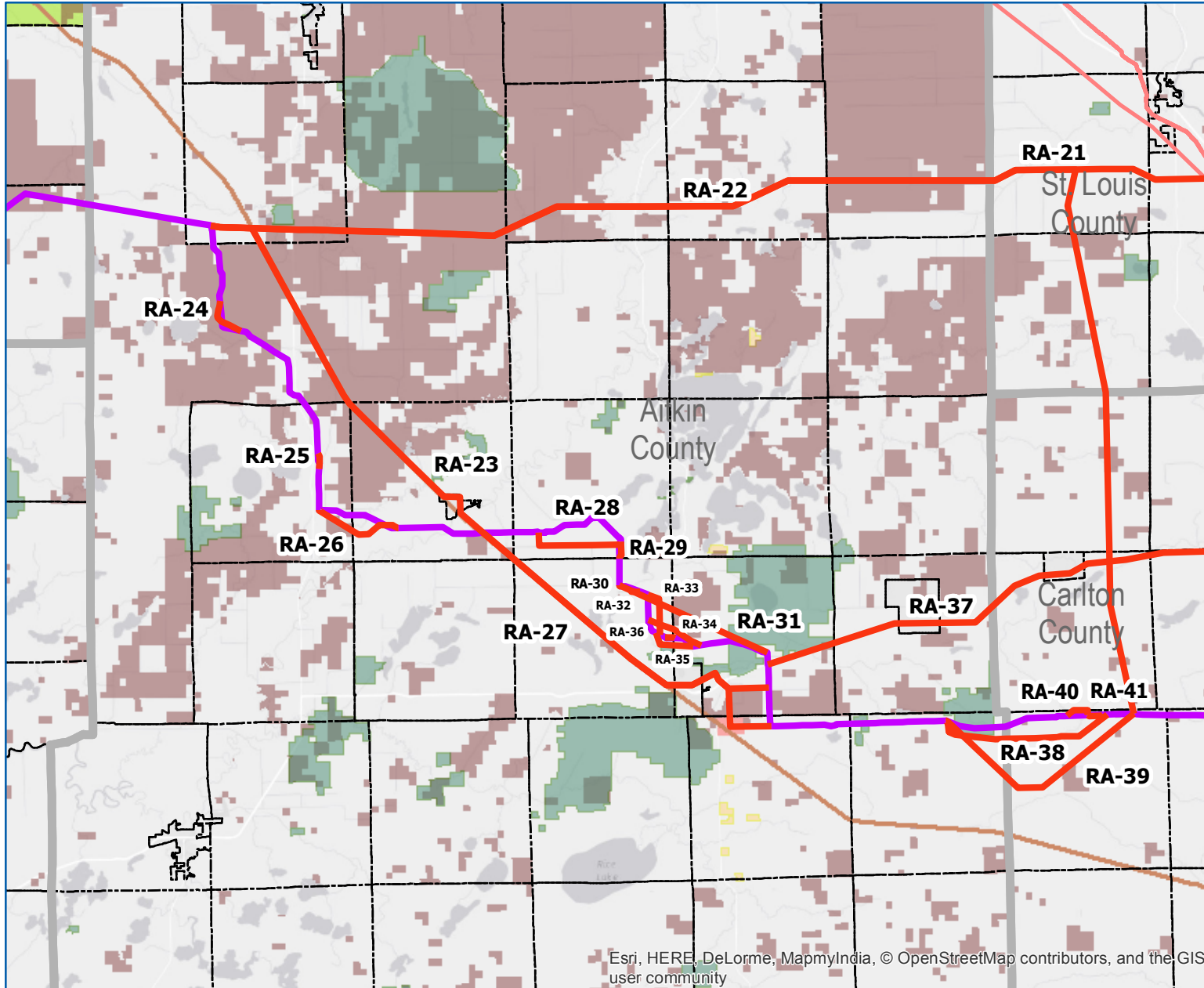
- Sandpiper Route Alternative
- Sandpiper Proposed Route
- Adjacent Route Alternatives
- Reservation Boundary
- Chippewa National Forest
- Scientific & Natural Area
- Wildlife Management Area
- State Forest
- Soo Line ATV Trail
- County Boundary

0 10 Miles



Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

**Figure 5 Aitkin County  
Sandpiper Route Alternatives**



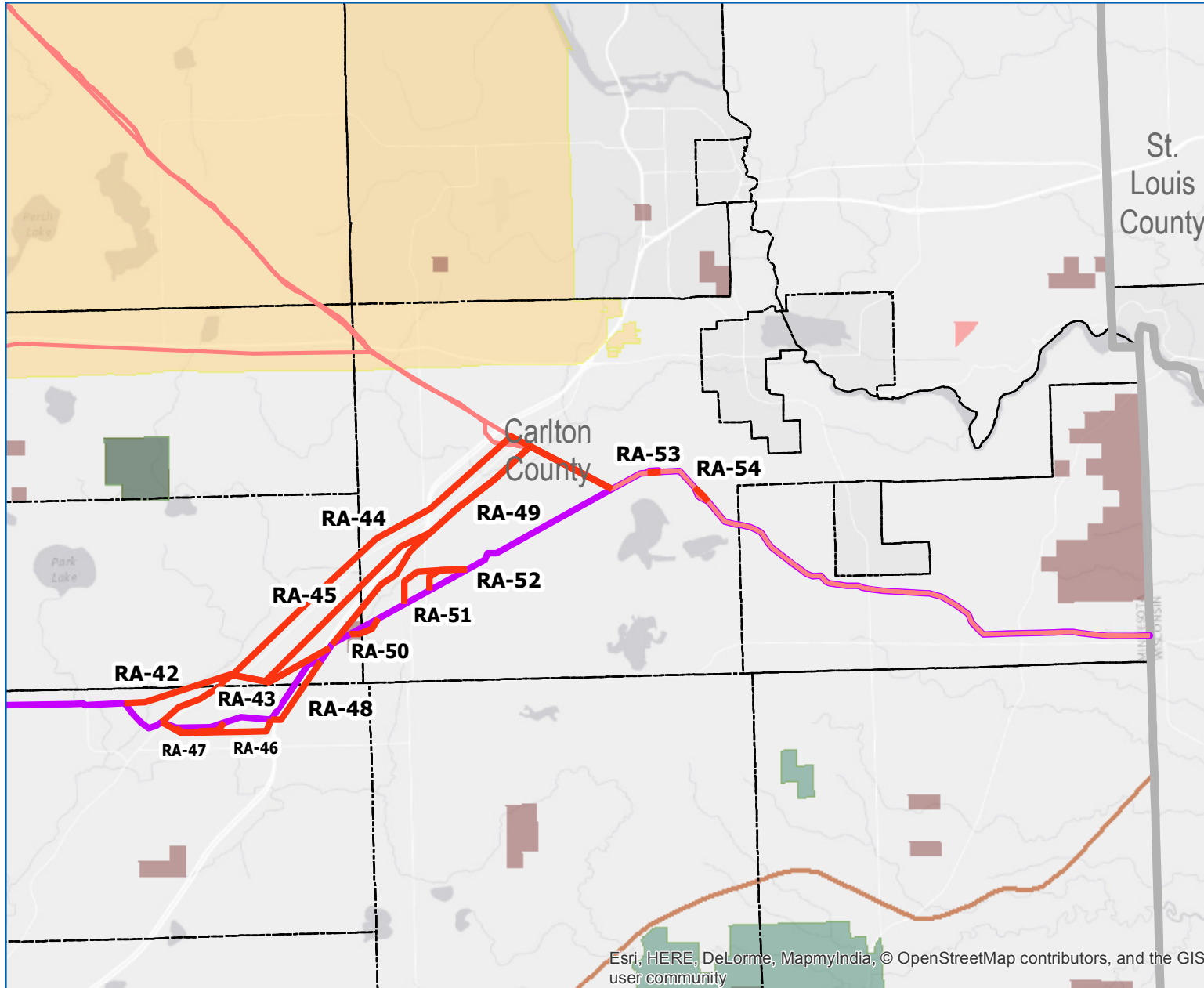
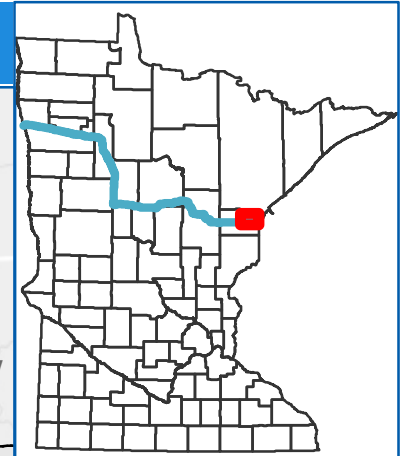
**Legend**

- Sandpiper Route Alternative
- Sandpiper Proposed Route
- Adjacent Route Alternatives
- Reservation Boundary
- Chippewa National Forest
- Scientific & Natural Area
- Wildlife Management Area
- State Forest
- Soo Line ATV Trail
- ▭ County Boundary
- ▭ City / Township Boundary

0 8 Miles



**Figure 6 Carlton County  
Sandpiper Route Alternatives**



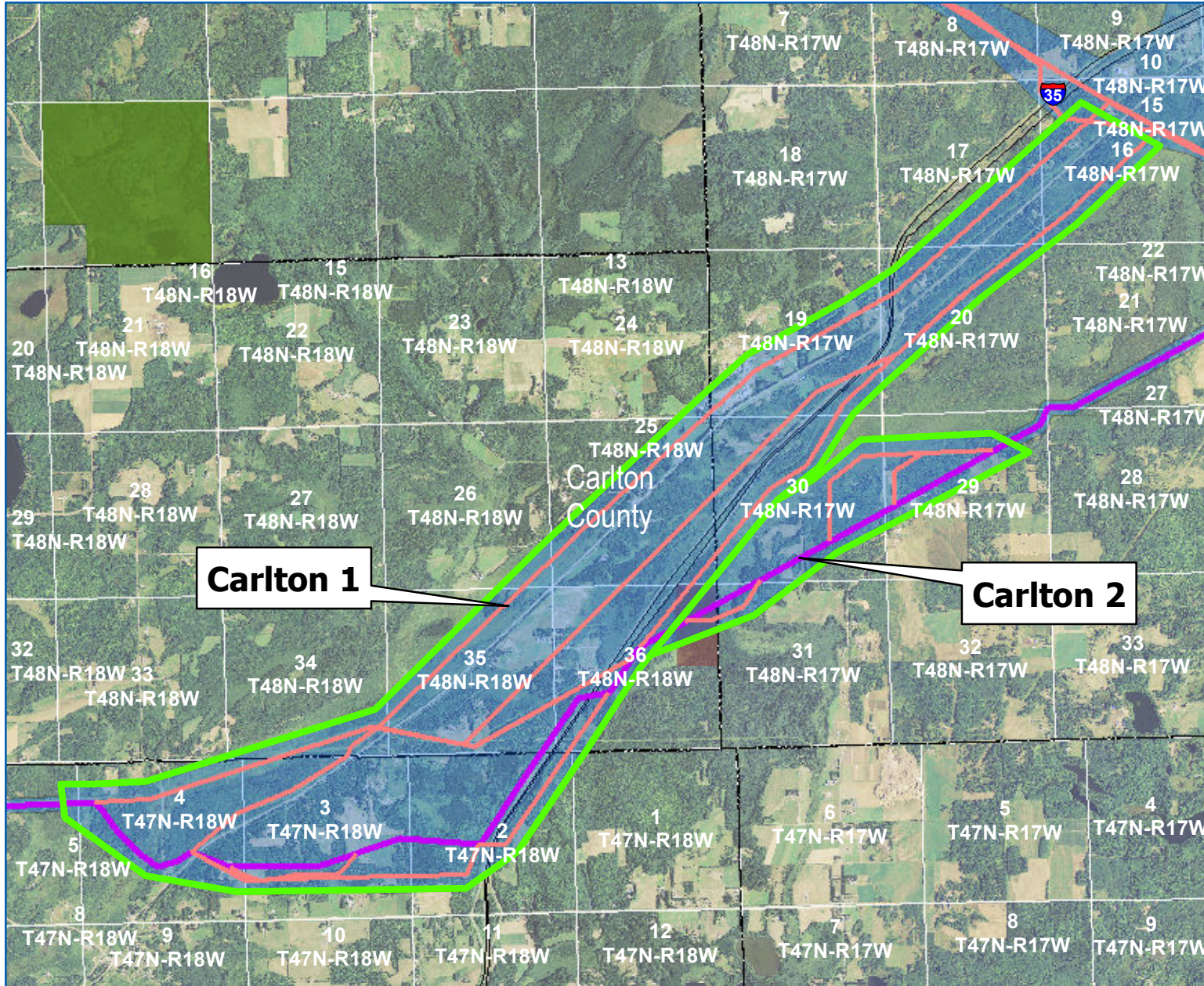
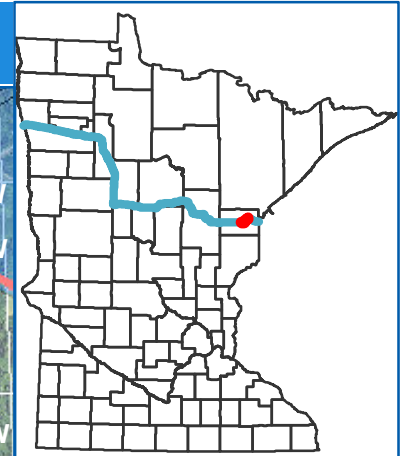
**Legend**

- Sandpiper Route Alternative
- Sandpiper Proposed Route
- Adjacent Route Alternatives
- Reservation Boundary
- Chippewa National Forest
- Scientific & Natural Area
- Wildlife Management Area
- State Forest
- Soo Line ATV Trail
- County Boundary
- City / Township Boundary

0 3 Miles



Figure 7 Carlton 1 and 2  
Sandpiper Wider Route Areas



**Legend**

- Sandpiper Proposed Route
- Route Alternatives
- Areas where route is wider
- Route Alternative Width
- Reservation Boundary
- Chippewa National Forest
- Scientific & Natural Area
- Wildlife Management Area
- State Forest
- County Boundary
- City / Township Boundary

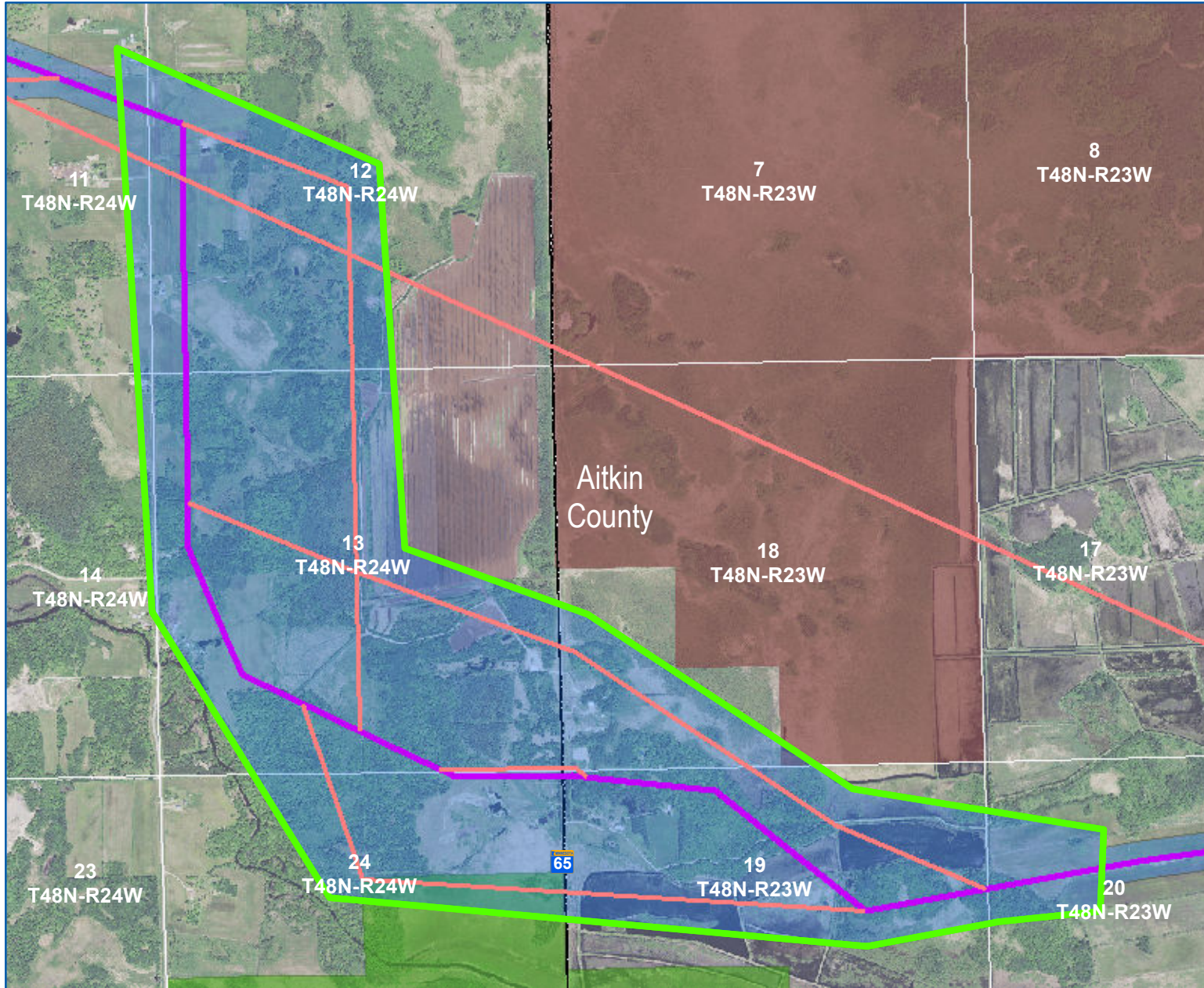
**Carlton 1    Carlton 2**

- |       |       |
|-------|-------|
| RA-42 | RA-50 |
| RA-43 | RA-51 |
| RA-44 | RA-52 |
| RA-45 |       |
| RA-46 |       |
| RA-47 |       |
| RA-48 |       |
| RA-49 |       |

0 1 Miles







**Legend**

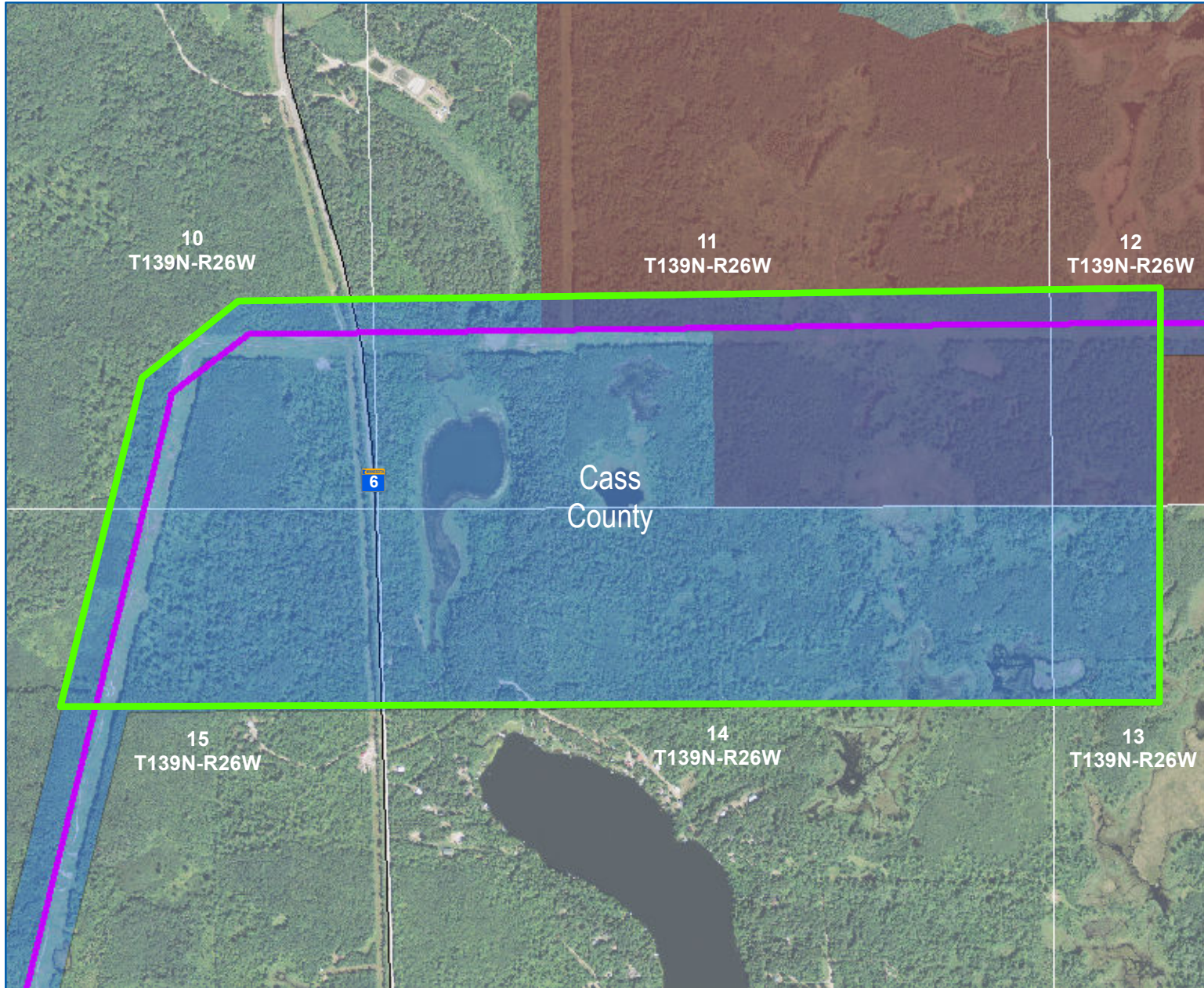
- Sandpiper Proposed Route
- Route Alternatives
- Areas where route is wider
- Route Alternative Width
- Reservation Boundary
- Chippewa National Forest
- Scientific & Natural Area
- Wildlife Management Area
- State Forest
- County Boundary
- City / Township Boundary

**Aitken County**

- RA-33
- RA-34
- RA-35
- RA-36

0 0.5 Miles





**Legend**

- Sandpiper Proposed Route
- Route Alternatives
- Areas where route is wider
- Route Alternative Width
- Reservation Boundary
- Chippewa National Forest
- Scientific & Natural Area
- Wildlife Management Area
- State Forest
- County Boundary
- City / Township Boundary

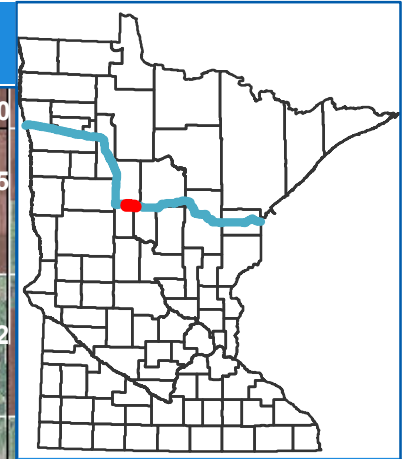
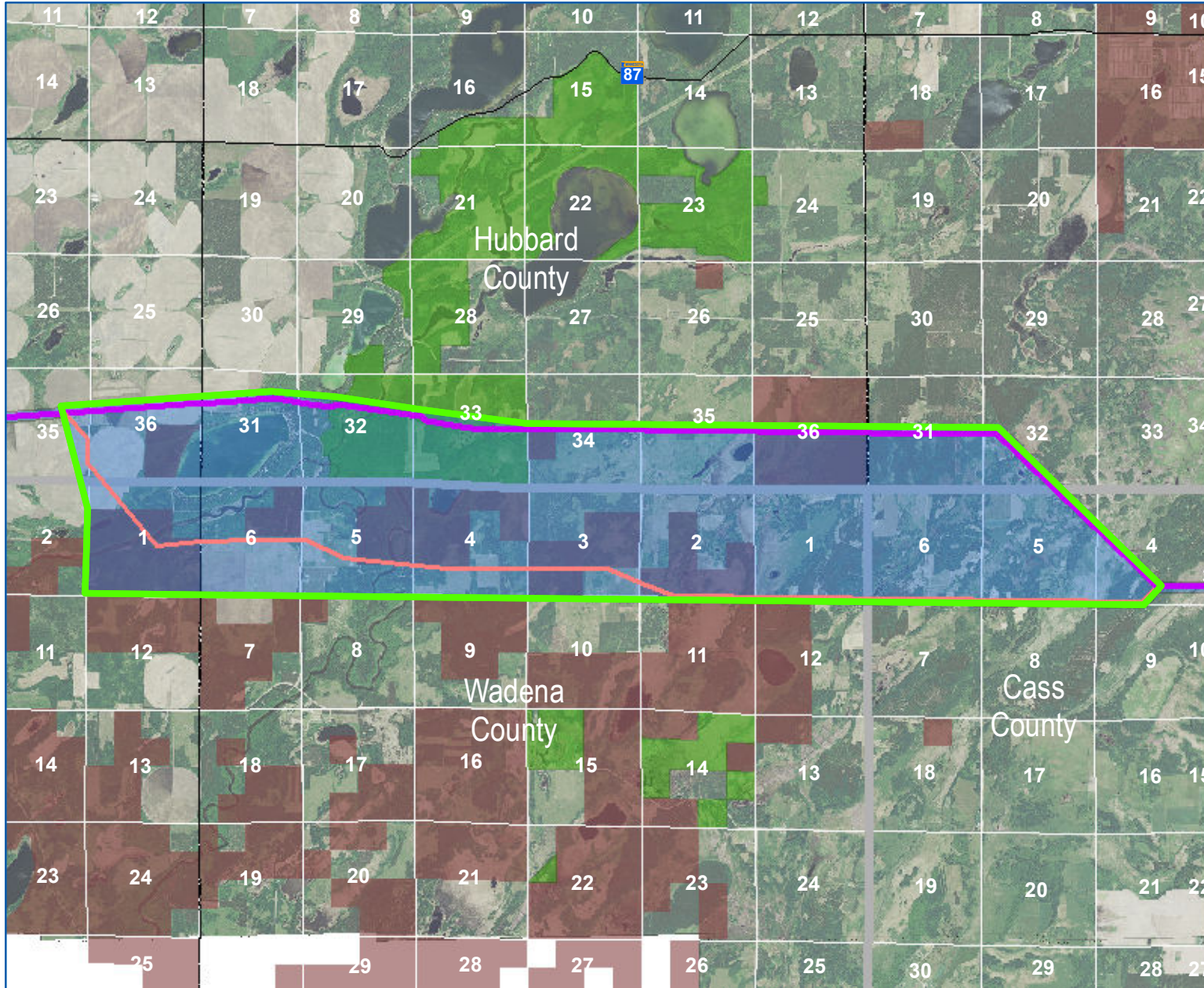
**Spire Valley AMA**

RA-20

0 0.3 Miles



**Figure 10 Crow Wing Chain WMA  
Sandpiper Wider Route Areas**



**Legend**

- Sandpiper Proposed Route
- Route Alternatives
- Areas where route is wider
- Route Alternative Width
- Reservation Boundary
- Chippewa National Forest
- Scientific & Natural Area
- Wildlife Management Area
- State Forest
- County Boundary
- City / Township Boundary

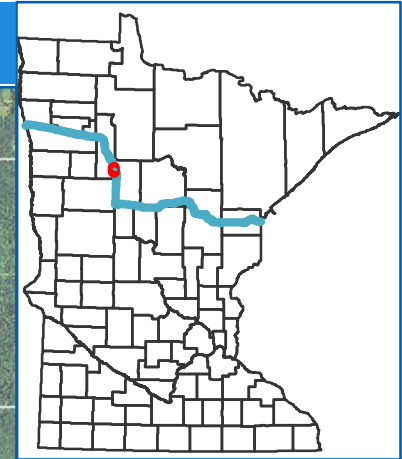
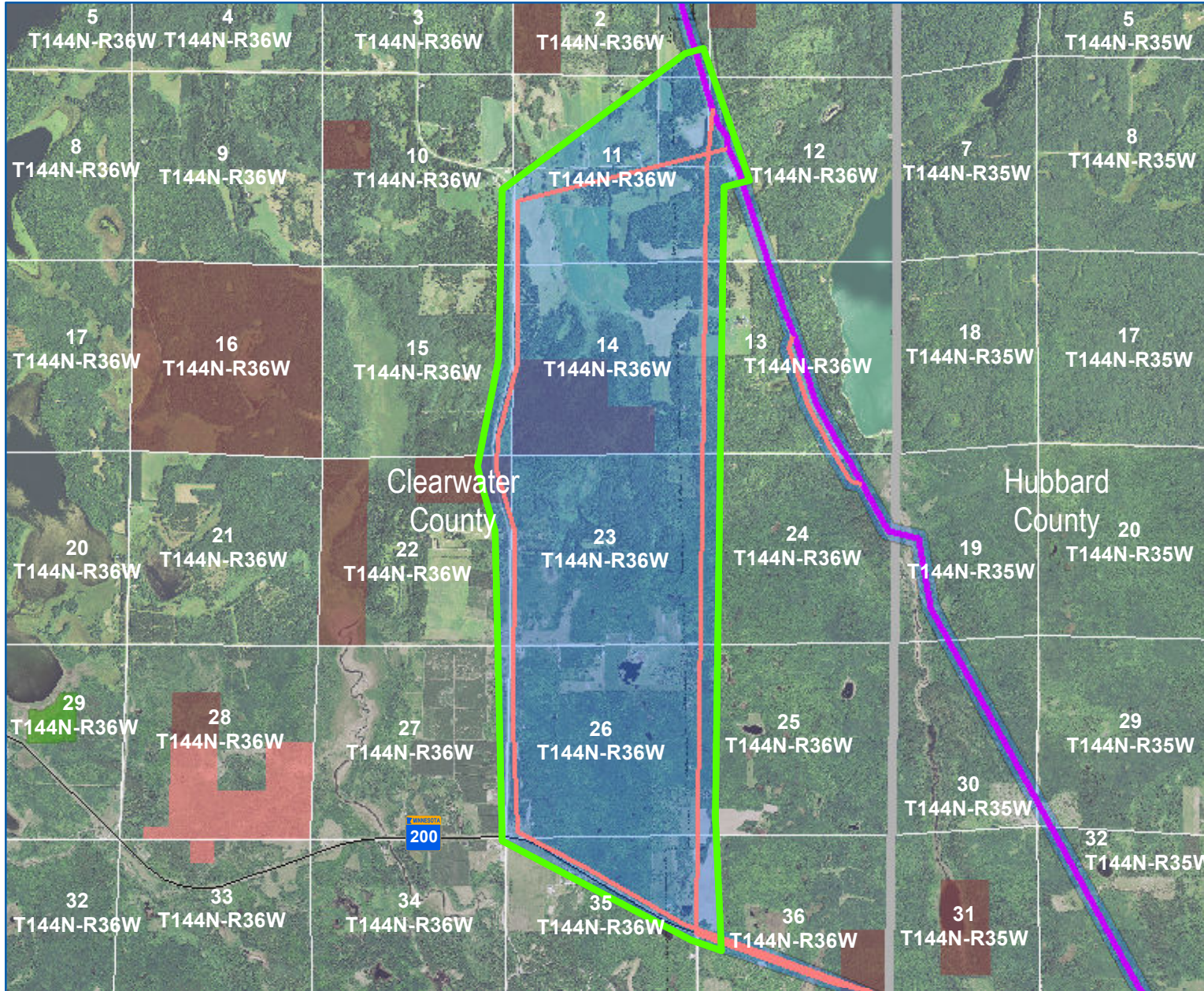
**Crow Wing Chain WMA**

RA-16

0 1.5 Miles



**Figure 11 LaSalle Creek  
Sandpiper Wider Route Areas**



**Legend**

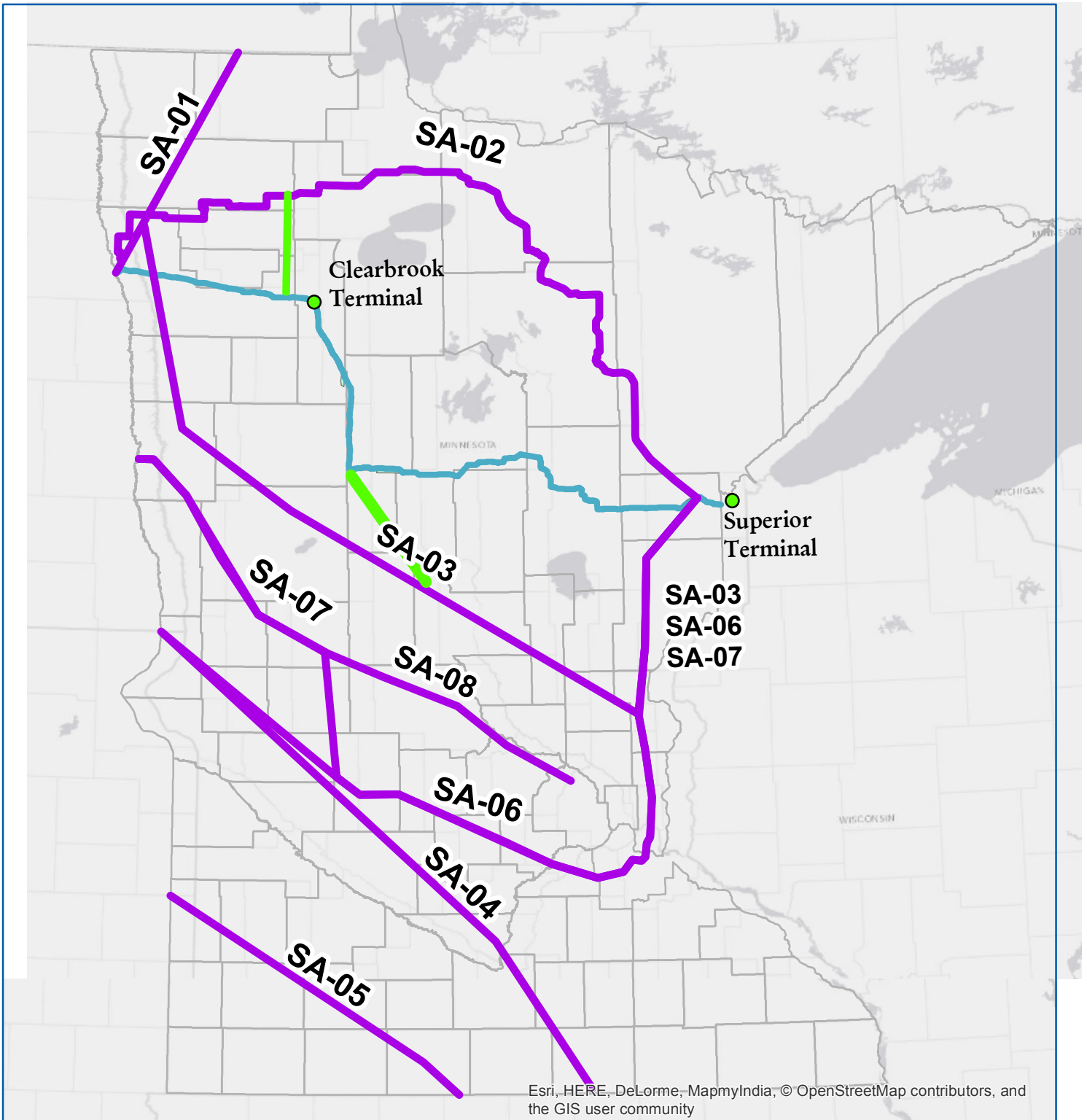
- Sandpiper Proposed Route
- Route Alternatives
- Areas where route is wider
- Route Alternative Width
- Reservation Boundary
- Chippewa National Forest
- Scientific & Natural Area
- Wildlife Management Area
- State Forest
- County Boundary
- City / Township Boundary

**LaSalle Creek**

RA-09  
RA-10

0 1 Miles





**Legend**

- System Alternative
- System Alternative Connector
- Sandpiper Proposed Route
- County Boundary

